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**THE IMPACT OF AGRICULTURE FINANCE ON SMALL AND
MEDIUM AGRIBUSINESS IN ZAMBIA
THE CASE OF ZAMBIA NATIONAL FARMERS' UNION - LIMA
CREDIT SCHEME**

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ABSTRACT

The aim of the study was to assess the impact of agricultural finance on Small and Medium Agribusiness in Zambia focusing on Lima Credit Scheme (LCS) of the Zambia National Farmers Union (ZNFU) in sampled districts. The districts were a representation of those along the line of rail, peri urban and rural based and ensuring that they cut across all the 4 Zambian ecological zones. Survey questionnaires were administered to 120 farmers selected from 8 districts. Two focus group discussions were held and key informants drawn from ZNFU and Zambia National Commercial Bank. In addition, representatives of the Agribusiness chamber and Insurance companies were interviewed.

The study hypothesis that the LCS intervention has had no favourable impact on beneficiary farmers and Agro-Businesses in Zambia has been proved null. To the contrary, the findings indicate that LCS had favourable impact on beneficiary farmers and Agro-Businesses in Zambia.

Thus, the study findings show that to a greater extent the scheme had positive impact that include; increased knowledge among Lima Credit scheme beneficiaries through trainings in various topics such as financial literacy and crop husbandry, increased economic wellbeing of the LCS beneficiaries, more households procuring oxen drawn agricultural implements, higher production levels of maize and soy-bean, greater participation in the market by SSFs, increased income, among others.

The factor analysis shows that the first factor *access to production inputs based benefits* suggests that in this component farmers accrued benefits from LCS which include access to market information, increase in area planted, increase in volumes sold and incomes. The second factor *improved income based benefits* suggests that respondents in this component acknowledges that as a result of increased incomes, they have recorded improved access to health, able to reinvest in other businesses, increase yield per hectare, able to pay loans on time, able to acquire agriculture assets-Ox drawn, access to commodity markets and improved access to education. Meanwhile the third factor, *factors that may affect performance of the scheme* revealed that *respondents* consider high input cost, not able to access good quantity and quality of inputs, inability to acquire agriculture production assets, specifically mechanisation and high interest as factors that may affect the performance of the LCS.

Unique to the scheme is the insurance cover on the loan amount, that mitigates defaults resulting from natural cause such as drought and floods.

ACRONYMS

BOZ	Bank of Zambia
CSP	Core Support Programme
IAPRI	Indaba Agricultural Policy Research Institute
CSO	Central Statistics Office
GRZ	Government of the Republic of Zambia
LCMS	Living Conditions Monitoring Survey
LCS	Lima Credit Scheme
MAL	Ministry of Agriculture and Livestock
MFI	Micro Finance Institution
FISP	Farmer Input Support Programme
SSF	Small Scale Farmer
ZANACO	Zambia National Commercial Bank
ZNFU	Zambia National Farmers Union

Table of Contents

ACKNOWLEDGEMENT	I
ACRONYMS	III
CHAPTER ONE: INTRODUCTION.....	1
1.1. STRUCTURE OF THE STUDY	1
1.2. BACKGROUND AND MOTIVATION OF STUDY	2
1.2.1. ZAMBIA'S AGRICULTURE POTENTIAL.....	2
1.2.2. UNEXPLOITED POTENTIAL	2
1.2.3. THE FARMER INPUT SUPPORT PROGRAMME IN ZAMBIA	4
1.2.4. HISTORICAL PERSPECTIVE OF SMALL HOLDER CREDIT SYSTEM	5
1.2.5. ZAMBIA NATIONAL FARMERS' UNION IN BRIEF	5
1.2.6. LIMA CREDIT SCHEME.....	6
1.2.7. WHY LIMA CREDIT SCHEME.....	6
1.2.8. LIMA CREDIT SCHEME OBJECTIVES.....	7
1.2.9. LIMA CREDIT SCHEME MODEL	8
1.3. PROBLEM DEFINITION	10
1.4. RESEACRH OBJECTIVES	11
1.5. RESEARCH HYPOTHESIS	11
1.6. JUSTIFICATION OF THE STUDY	12
1.7. SCOPE OF THE STUDY	12
CHAPTER TWO: LITERATURE REVIEW	12
2.1. CONCEPT OF MICROFINANCE.....	12
2.1.1. MICROFINANCE IN GENERAL.....	12
EVOLUTION OF MICRO-FINANCE	13
2.1.2. MICROFINANCE AS A TOOL FOR DEVELOPMENT AND POVERTY ALLEVIATION	14
2.1.3. MICRO-FINANCE AND POVERTY IN THE DEVELOPING REGIONS	15
2.1.4. GENERAL GOVERNANCE AND REGULATORY FRAMEWORK THAT HAVE INFLUENCED THE AGRICULTURAL FINANCING AND MARKETING IN ZAMBIA-FIRST REPUBLIC	17
2.1.5. GENERAL FINANCIAL AND CREDIT SCHEMES IN ZAMBIA	23
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY.....	27
3.1. INTRODUCTION	27
3.2. THEORETICAL FRAMEWORK	27
3.3. RESEARCH DESIGN	29
3.4. CHALLENGES AND LIMITATIONS OF THE STUDY	30
3.5. POPULATION AND SAMPLING	31
3.5.1. POPULATION.....	31
3.5.2. SAMPLING	32
3.6. DATA COLLECTION.....	32
3.7. RESEARCH ETHICS.....	32
3.9. DATA ANALYSIS AND PRESENTATION	33
3.10. CONCLUSION	34
CHAPTER FOUR: RESULTS AND DISCUSSIONS	36
4.1. INTRODUCTION	36
4.2. DESCRIPTIVE STATISTICS RESULTS	38

4.2.1.	SOCIO-DEMOGRAPHIC CHARACTERISTICS OF HOUSEHOLDS OF THE RESPONDENTS	38
4.2.1.1.	Age Distribution of Respondents	40
4.2.1.2.	Gender Distribution	40
4.2.1.3.	Educational Levels	41
4.2.2.	BENEFITS ACCRUED TO FARMERS/AGRO-BUSINESSES THAT HAVE ACCESSED THE CREDIT SCHEME.....	41
4.2.2.1.	Benefits from the farmer's perspective.....	41
4.2.2.1.1.	Number of years on Lima Credit Scheme	41
4.2.2.1.2.	Input Access	42
4.2.2.1.3.	Most Grown Crop Under Lima Credit Scheme	43
4.2.2.1.4.	How beneficial trainings are under LCS.....	43
4.2.2.1.5.	Is the quality and quantity of inputs satisfactory	44
4.2.2.1.6.	Increase in area planted	45
4.2.2.1.7.	Increase in Yield per Hectare	46
4.2.2.1.8.	Improved Access to Markets	47
4.2.2.1.9.	Crop Volumes Sold	48
4.2.2.1.10.	Farm-gate Income	49
4.2.2.1.11.	Ability to re-invest in other business.....	50
4.2.2.1.12.	Purchase of Agricultural Assets	50
4.2.2.1.13.	Improved Access to Health Services.....	52
4.2.2.1.14.	Improved Access to Education.....	52
4.2.2.2.	Benefits from the Bank's Perspective	53
4.2.2.3.	Benefits from the Zambia National Farmers' Union Perspective.....	53
4.2.2.4.	Benefits from the Inputs Supplier Perspective	54
4.2.3.	MAJOR FACTORS THAT MAY AFFECT THE PERFORMANCE OF LCS OF ZNFU.....	54
4.2.3.1.	Risk of High Interest Rates.....	55
4.2.3.2.	High Cost of Inputs as a Risk	55
4.2.3.3.	Risk of Poor Rainfall Patterns	56
4.2.3.4.	Risks associated with Delayed Loan Repayments/Defaulting.....	56
4.2.3.5.	Risk Associated with poor road infrastructure/high cost of transport	58
4.2.3.6.	Risks associated with late input delivery	59
4.2.3.7.	Poor market facilitation	59
4.2.4.	EFFECTS OF GOVERNANCE AND REGULATORY FRAMEWORK VARIABLES ON THE PERFORMANCE OF LIMA CREDIT SCHEME	60
4.3.	FACTOR ANALYSIS	62
	TABLE 29: ROTATED COMPONENT MATRIX RESULTS (WITHOUT VARIABLE LOADINGS <.3)	63
5.1.	CONCLUSIONS	66
5.2.	RECOMMENDATIONS AND IMPLICATION TO ZNFU	68
	REFERENCES	71
	ANNEX I: WORK SCHEDULE	75
	ANNEX II: BUDGET FOR THE PROPOSED RESEARCH.....	76
	ANNEX III: QUESTIONNAIRES	79

List of Figures

Table 1 Measurement items and descriptive statistics	37
Figure 2: Categorisation of farmers by Hectare	39
Figure 3: Farmer category distribution.....	39
Figure 4: Age distribution	40
Figure 5: Gender distribution	40
Figure 6: Educational levels	41
Figure 7: Number of years on Lima Credit Scheme	42
Figure 8: Most grown crop under LCS	43
Figure 9: How beneficial trainings are under LCS	44
Figure 10: Is the quality & quantity of inputs satisfactory	45
Figure 11: Increase in area planted	46
Figure 12: Increase in Yield Per Ha	46
Figure 13: National vs ZNFU Average Yield per Hectares	47
Figure 14: improved Access to Markets	48
Figure 15: Crop Volumes Sold.....	49
Figure 16: Farm-gate Income	49
Figure 17: Ability to re-invest in other business	50
Fig 18: Purchase of Agric Assets-Oxen & Ox-drawn.....	51
Figure 19: Purchase of Agric Assets-Mech.....	51
Figure 20: Improved Access to Health Services	52
Figure 21: Improved Access to Education	53
Figure 22: Risk of High Interest Rates	55
Figure 23: Poor rainfall Patterns	56
Figure 24: Delayed loan Repayments/defaulting	57
Figure 25: Lima Credit Scheme Loan Recoveries over Years	58
Figure 26: Continued Poor Roads/High Transport Costs.....	58
Figure 27: Late Input delivery.....	59
Figure 28: Poor market facilitation	60
Table 29: Rotated Component Matrix Results (Without Variable Loadings <.3)	63

CHAPTER ONE: INTRODUCTION

The aim of the study was to assess the Impact of Agricultural Finance on Small and Medium Agribusiness in Zambia focusing on Lima Credit Scheme of the Zambia National Farmers Union in sampled districts of Kazungula, Choma, Katete, Kapiri, Mpongwe, Kasama, Lundazi and Mkushi. The districts are a representation of those along the line of rail, peri urban and rural based and ensuring that they cut across all the 4 Zambian ecological zones. Two focus group discussions were held and key informants drawn from Zambia National Farmers' Union, Zambia National Commercial Bank and representatives of the Agribusiness chamber were interviewed. This chapter further gives the background and motivation to this study and details the description of the study area, problem statement and research questions, and objectives of the study and the layout of the dissertation.

1.1.STRUCTURE OF THE STUDY

This study is presented in five chapters.

Chapter 1: This chapter being the general introduction, presents the background information and motivation for the study. Furthermore, the chapter details the problem statement which necessitated the study and objectives of the study as well as its layout.

Chapter 2: This chapter presents the literature reviewed for this study with focus on micro finance in general and as a tool for poverty reduction. In addition, literature on the theoretical and methodological frameworks in the social sciences received priority.

Chapter 3: This chapter presents the research design and methodology used to conduct the study including data collection and analysis strategies. Due to the nature of the study, it exploits both qualitative and quantitative research approaches. Survey methods through a questionnaire were used to capture quantitative data while in-depth interviewing was the method used to capture qualitative data.

Chapter 4: This chapter presents the results of the questionnaire survey and the rest of the data collected through document review, focus group discussions, key informant interviews and observations.

Chapter 5: This chapter discusses the results of the study. The discussion situates the study into the literature by blending the findings from the study with the existing knowledge through

the literature review. It also analyses the findings with respect to the theoretical framework used in the study. Conclusions and recommendations are presented in this chapter.

1.2.BACKGROUND AND MOTIVATION OF STUDY

1.2.1. Zambia's Agriculture Potential

Zambia's population is now estimated at over 14.6 million people with population density of 19.24 people per km square (IAPRI 2015). The country has over 750,000kmsquare of land, massive endowments in surface water and sub-surface water resources, including the largest reservoir by volume in the world. (IAPRI 2015). Zambia also holds the majority of the unexploited fresh waters in the Southern African region. The biggest potential for increasing agricultural production capacity in Southern Africa, if not the whole continent, lies in Zambia.

Zambia's agriculture and agribusiness development opportunities are further fuelled by the Liberalised market policies; and sustained macro-economic growth for decades now. Zambia's geo-location makes it the only country land-linked to at least 8 Southern African countries, which provide potential regional markets for the country's increasing agricultural commodities.

Added to the country's huge natural resources endowments, Zambia is renowned for multicultural tolerance and accommodative to policy for Foreign Direct Investments. According to the Foreign Private Investment & Investor Perception Survey (2015) Zambia's net foreign direct investment rose to US \$3,194.9 million in 2014 from US \$1,690.5 million in 2013

The Zambian unit in diversity has been demonstrated by more farmers than anyone else. ZNFU is one good example where small and large scale farmers, regardless of their creed, colour and cultural background work in harmony in developing the Zambian agriculture and agribusiness.

1.2.2. Unexploited Potential

Only about 35% of arable land is currently being utilized (CSO/MAL 2012). Despite these unique and abundant natural resource endowments, agricultural growth has remained almost stagnant, with poverty rates in rural Zambia remaining obstinately high, at 78% of the population, and occurrences of retardation, malnutrition, and wasting continuing to disproportionately affect rural Zambians (IAPRI 2015). In fact, the results of the two recent Living Conditions Monitoring Survey (LCMS) of 2006 and 2010 also revealed that poverty levels have remained persistently high – with approximately 60.5% of the population in Zambia

still living below the poverty line. Those who live in rural areas are said to be poorer in terms of all key poverty indicators than their urban counterparts.

This unfortunate and undesired situation requires changing. To this end, Zambia thus needs proactive wealth creation measures among its small scale farmers and its rural populace in general. Given the unexploited agricultural development potential, Zambia needs policy measures and investments to viably stimulate rural economic development driven by the transformation of our micro, small and medium scale agricultural producers into profitable farmers.

Through technical support and a range of smart, catalytic investments, agriculture is currently the best pathway for Zambia's broad based economic growth, wealth creation, and enhancing food/nutrition security. Zambia's agriculture supports livelihoods of over 70% of the population; with 78% and 69% of women and men in Zambia deriving their livelihoods from agriculture, respectively (Foreign Private Investment & Investor Perception Survey 2015)

Further, potential can be seen in the fact that for the ten years (2001-2011) where the country's economy has been growing at an average of 6% per annum, rising from a -2% in 1995. Zambia has exhibited significantly improved macro-economic pointers, including an inflation rate that has remained below 10%(BOZ 2013). Despite the above positive signs, the standard of living in rural areas has remained very poor, with current poverty levels at 77% (CSO- living conditions report 2015). This has negatively affected the mainstream of the country's population in the rural areas whose livelihood depends on agriculture.

Addressing rural poverty has remained problematic largely due to weak performance of the agriculture sector whose funding by government stills falls below the 10% recommended by the CAADP framework. Erratic rainfall conditions in most farming areas have also not helped matters as farmers receive lower yields from their crops due to drought conditions in most parts of the country.

Although the Government of Zambia's annual expenditure on agriculture remains below the 10% recommended by CAADP, over 70% of funds allocated to the entire agriculture sector are apportioned to subsidize inputs under the Farmer Input Support Program (FISP) and the purchasing of maize at rates above market under the Food Reserve Agency.

1.2.3. The Farmer Input Support Programme in Zambia

In Zambia farmers are classified into three categories; that is, small- scale (peasant) farmers, medium scale and large scale commercial farmers (GRZ, 1994). The small and medium scale which are the major focus groups of this study comprise 85% of the farming community and cultivate over 80% of the total area under cultivation, supplying 80% of the country's staple food (McKenzie and Chenoweth, 1991; GRZ; 1990). The bulk of the marketed agricultural production is produced by small scale farmers. However, small- scale farming is characterized by:

- Low levels of investment
- Low levels of technology
- Low farm level productivity and
- Low income

These characteristics inhibit small scale farmers to improve their social and economic status as they are not able to produce for both the market and their own consumption. Further, these farmers do not have access to credit facilities under the liberalized market.

In relation to FISP, it is difficult to distinguish what the solution is and the entire removal of fertilizer subsidies is hardly practical except if the productivity of SSF's is increased significantly through the more rapid adoption of CF practices. The challenge relates primarily to low yields which are highly linked to conservative farming practices as opposed to excessive production costs.

The immediate step is to ensure that farmers who apportion funds to receive subsidized maize inputs get them in adequate time to plant their crops with the first planting rains. In the interim, Government should align the subsidy to a *threshold based on economic analysis*, that in turn will encourage efficient and prolific farmers to step up performance and achieve satisfactory returns on their investment. By adopting approaches that reduce labour inputs, together with costs, complete with increase in yields, encourage diversification and temper excessive reliance on synthetic fertilizers. In the long run, the Government should endeavor to remove the duty of MAL for managing distribution, and have MAL engaged more in extension.

Government should also withdraw from direct ingress of farming inputs, which previously has encouraged the unchallenged distribution of tenders. This would inspire open competition among commercial farming input importers, blenders and their agents.

The application of subsidies in an open market scenario even if they are reduced to economically justifiable levels, involves complications that have not been thoroughly thought through. Nonetheless, among a number of alternatives, a situation that should be considered goes as follows; Key suppliers would qualify to receive the subsidy refund on verified procurements from their rural wholesale depots, as long as the said depots are registered for the purpose. This in turn will reassure open price competition, downstream and expand the accessibility of inputs in rural areas through the participation of small retailers who in the past have been side lined by the FISP.

1.2.4. Historical Perspective of Small Holder Credit System

The government support to small holder farming dates back to the colonial period. Zambia inherited small holder credit schemes from the colonial government after independence. The colonial government introduced the Improved African Credit Schemes (IACS) through which African small holder farming was supported to provide cheap food for the urban population (Novo and Shawa, 2007).

The Zambian government continued the policy of financial support to small holder farmers as a means through which small holder farmers would increase production. The major public rural credit institutions through which this has been done is through the Lima Bank (and its predecessors), CUSA, ZCF – Finance Services and Lintico. These were state or cooperative bodies that had received funds from the government and donor agencies for onward-lending to farmers and also to meet their administrative costs. The governments viewed this as the means of increasing access of small- scale farmers to financial resources in order for them to improve agricultural production. This was also a strategy to move the small- scale farmers into the commercial sector.

The agricultural credit systems in Zambia can further be understood when analysed through the different republics in the country. That is, the first, second, third, fourth and fifth republic. Prior to these republics, was the colonial era under the British authorities. As in other aspects of the colonialism, agriculture was biased towards the occupiers.

1.2.5. Zambia National Farmers' Union in Brief

Zambia National Farmers' Union (ZNFU) is a member based organization whose mission is to promote and safeguard interests of members i.e. it's over 600,000 individual small scale and emergent farmers from ;70 District Farmers' Associations and 20 Commodity/specialized Associations; the over 700 individual commercial farmers; 43 Corporations/companies

involved in agriculture; 28 Purveyors, (agribusiness chamber members); and 12 other organizations (Associate members such banks and insurance companies) involved in the business of agriculture, so as to achieve sustainable agricultural, economic and social development. ZNFU's diverse membership makes the Union to be a true representative of the entire agricultural sector in Zambia and this setup remains rare among Farmer organizations and currently is unique to Zambia. Principal functions of the Union include: lobbying and advocacy; member services provision; and outreach (i.e. intercommunication and information dissemination). Out of these core functions comes out, a ZNFU, renowned and respected for its strong lobby and advocacy, improved member services, and immense reputation for independence and lack of bias.

1.2.6. Lima Credit Scheme

Services provision to members is one of the core ZNFU functions aimed at helping members improve their agricultural production, productivity, value addition and marketing. To achieve this, a number of tailor-made support services have been designed and are being provided to different membership categories.

The Lima Credit Scheme is one such important service targeting small scale farmers and being provided by ZNFU. The LIMA scheme has been developed in-house by the ZNFU in close consultation with commercial financial partner Zambia National Commercial Bank (ZANACO) and other private sector players such as Zambia State Insurance Corporation (ZSIC). The continuing Lima Credit Scheme (LCS) roll-out/expansion and diversification is also supported technically and financially by the ZNFU Core Support Programme Partners, i.e. The Embassy of Finland, Embassy of Sweden and We-Effect, as part of the ongoing 2009-17 ZNFU CSP joint funding. ZNFU is aiming at making the Lima Credit Scheme's operations to be self-financed by 2016.

1.2.7. Why Lima Credit Scheme

Small scale farmers (SSFs) in Zambia find it very difficult to access financial services for the purchase of their seasonal inputs. With the market liberalization for maize in 1991, Banks were no longer able to place stop orders for SSF supported with seasonal loans and therefore perceived financing them as high risk and withdrew this support. Without input support SSF's find it problematic to improve their crop production and to increase their planted areas to be able to drive past the barriers of poverty.

Other Factors contributing to this situation include:

- Limited exposure and access by SSFs to group savings and credit facilities/opportunities;
- Expensive and/or high cost of agricultural credit;
- Lack of acceptable collateral by SSFs to enable them access seasonal and asset loans;
- Poor agricultural productivity among SSFs mainly due to limited access to extension services and yield-enhancing technologies and inputs, political interference, droughts, poor market access etc.;
- Limited understanding of small scale agricultural risk assessment within some banks and financial services companies;
- Poor credit culture among many Zambian farmers;
- Policy uncertainties resulting into a risky agricultural economic/policy environment.

The above confounding factors notwithstanding, a number of financial institutions are now showing interest in developing financial products for the agricultural sector. A number of commercial banks are also becoming more proactive in their engagement with small and medium scale farmers. It is on this background that LCS was designed and being implemented. LCS is thus an effective mechanism for assisting small scale farmers (SSFs) to access credit support on a commercial basis from banks that they would not normally be able to access. For SSFs to be able to progress past the subsistence phase, credit input support is seen as a major factor in supporting these farmers to progress to the next level of farming; treating farming as a business as opposed to a way of life.

1.2.8. Lima Credit Scheme Objectives

Objectives of the LCS are to:

- Improve SSFs access to commercial credit in a maintainable method that results in better productivity; amplified member services and improved farmer welfare through increased income earnings;
- Support wealth creation using the principle of a good savings and credit culture as the catalyst among SSFs; and
- Complement and support other ZNFU credit schemes such as the Bunjimi Asset Plus, Mechanization Fund and Emergent Farmer Development Scheme

1.2.9. Lima Credit Scheme Model

LCS is a ZNFU led agricultural inputs and asset loans, for otherwise unbanked small scale farmers of Zambia. LCS originated out of a felt need by SSFs for fairly priced cash-collateralized loans for their agricultural inputs and assets. Key and innovative LCS features include:

- Farmer driven financial services provision;
- Farmer centred and competitive inputs procurement system;
- Private Sector involvement with each partner doing what they do best, i.e. banking services, insurance, input suppliers and commodity traders all coming to offer services to a farmer.

Target group

The credit scheme targets small-scale farmers, who are able to produce for the market (beyond subsistence) and practice farming as a business. SSFs are required to meet the following requirements for them to participate under LCS:

- Be paid up member of the ZNFU and an affiliated District Farmers' Association;
- Be part of a recognized Information Centre (IC) as their grass root structure which will receive the bulk supply of inputs and be the bulking centre of produce for sale
- Be part of LCS group (Between 15 to 30 in number) of a given IC where all group members co-guarantee each other on loan repayments;
- Be able to deposit 50% of the loan value into a ZNFU LCS savings security account for the loan duration;
- Must have paid their previous LCS loan in full with all agreed charges; and
- Willing to receive actual inputs not cash.

Farmers can apply for a minimum of 1 hectare and a maximum of 30 hectares for input credit support

Inputs supply and output marketing

LCS uses an open tendering and group/bulk acquisition of farmer selected/preferred inputs. This farmer procurement system enables the scheme to negotiate for discounts due to huge purchase volumes. This procurement process also promotes competition among inputs suppliers and has led to improved extension services provision through supporting demos,

farmer trainings, field days and the promotion of district/camp based agro-dealers by private sector input suppliers. LCS also helps in arranging forward supply contracts, provides market price information (ZNFU SMS 4455), facilitates improved market linkages and provides farmer bulking support.

Lima Credit Scheme Performance

The Lima Credit Scheme has grown organically since inception, from 2 DFAs with a credit exposure of ZMW600, 000 in 2008/2009 season to 41 DFAs with a loan exposure of ZMW40, 000 in 2012/2013. Benefiting farmers have increased from 200 to 10,281 over the same period. The target is to have a minimum of 30,000 small scale farmers accessing finance for improved and certified agricultural inputs by 2016. The Lima Credit Scheme has also managed to record 100% loan recoveries with minimal and/or minor challenges during the last four seasons. ZNFU has also continued negotiating for reduced cost of LCS finance and these efforts have resulted into a reduction in annual LCS interest rate from 27% in 2009 to 14% in 2013.

Academic Relevance Of The Study

The researcher's passion and drive derived motivation from the submission brought by Swanepoel & De Beer (2006) who commented on poverty alleviation amongst poor communities in the developing regions thus *"...attempts at alleviating poverty may bring some relief – therefore development must bring release, not relief from poverty..."* This submission had in addition provoked the thought of establishing what developmental role micro-finance could play in poverty alleviation in Zambia. Considering the new socio-economic policy direction in Zambia which has emphasis on poverty alleviation and promotion of micro-finance as the driving tool for the transformation, this study was paramount. In addition, the background of this researcher in the micro-finance industry specifically farming industry was thought to be crucial in seeking for some solutions to the socio-economic challenges in Zambia – especially with regard to the poor. Furthermore, this researcher was in addition challenged by emerging reports in modern social science research on Zambia which argues that poverty levels in Zambia might in actual fact have been grossly under-estimated. This assertion suggests that poverty situation in Zambia could actually be worse than it has been currently assumed.

The under-estimation of poverty in Zambia is said to be emanating mainly from flawed methodological challenges of researches. Challengingly the flawed researches have to guide policy direction on poverty in Zambia – of course with some devastating outcome consequences. For example, Chibuye (2011) argued that urban poverty levels might be higher than what has been currently estimated because there seems to be some under-estimation of the costs of food and non-food needs amongst urban Zambians for example. The under-estimation of poverty levels in Zambia could have some serious policy and

poverty mitigation and coping strategic design and implementation because this suggests that current poverty alleviation mechanisms could as well be inadequate to addressing the needs of the poor (Chibuye, 2011). In other words, this study is crucial as it is premised to provide applied, practical and improved information on real poverty issues in Zambia from the improved methodological considerations of the study. In addition, by going further to investigate the impact of micro-finance on poverty alleviation amongst poorer households in Zambia is a crucial contribution to assisting policymakers to understand the role micro-finance could play in poverty alleviation in Zambia.. The policymakers would be able to know and understand who the real poor were; something which currently is lacking in existing literature

1.3.PROBLEM DEFINITION

Like any other post-colonial country in Sub-Saharan Africa, Zambia is also engaged in finding effective and efficient mitigating strategies for poverty alleviation to assist its vast majority of people who are poor mostly poor. Policymakers and other development agencies have adopted a variety of strategies to alleviate poverty in Zambia. Provision of micro-finance to those who are perceived to be poor has become a policy priority in Zambia. Specifically, the agricultural sector is one of the key priority sectors as presented in the Zambia's Sixth-National development plan. Contrary to some beliefs by some such as Kauser (2013) who argued that disbursement of micro-finance to the poor wastes valuable money, most micro-finance advocates argue that it is unique in that it provides the platform for the poor to diversify and increase their household income opportunities and sources (Jegede *et al.*, 2011). This is because micro-finance promoted productive entrepreneurship and also encouraged household savings on the one hand (Odell, 2010). Through micro-finance, vulnerable groups such as women on the other hand might be assisted and encouraged to develop their own micro and small and medium size economic enterprises for economic equity – just as this approach was used in Pakistan some years ago (Mustafa & Ismailov, 2008)

It is with this background that ZNFU created a Micro Finance Institution (MFI) targeting to support farmers both financially, material and market intelligence. Having recorded 100% of loan recoveries in past 4 years, the scheme started recording some farmers defaulting in the subsequent years. That is, Lima started experiencing non-payment of loans by small scale farmers. It is also evident from the background that a significant number of farmers have been complaining about failing to receive support services at the adequate level and well on time.

It is with this background that the study investigates whether or not Lima Credit Scheme has a significant impact on its beneficiaries given 100% loan recovery rate for the past 4 years. The background highlights pointers to insignificant impact of the intervention of LCS on the beneficiary businesses given that within the arrangement there are some farmers/businesses that have defaulted for some reasons, probably including crop failure due to natural calamities and the structure of the services of LCS.

1.4. RESEARCH OBJECTIVES

The objectives of this study are to:

- I. To assess the benefits accrued to farmers/agro-businesses that have accessed the credit scheme.
- II. To establish which are the major specific factors that are affecting the performance of LCS of ZNFU.
- III. To investigate how governance and regulatory framework variables are impacting on the performance of LCS.
- IV. To suggest recommendations that will enhance the performance of LCS in providing services to small scale farmers in Zambia.

1.5. RESEARCH HYPOTHESIS

The study hypothesis that the LCS intervention has had no favourable impact on beneficiary farmers and agro-Businesses in Zambia.

The hypothesis stems from the fact that ZNFU, its financial partner Zambia National Commercial Bank (ZANACO) and other partners developed the credit scheme delivery mechanism. The overall goal of the LCS is to contribute “to improved smallholder productivity and make financial services markets work for the rural poor in Zambia. However, in the past five years there has been no impact study carried on LCS. This has made it very difficult for ZNFU to demonstrate the impact of LCS. In fact, it has remained more of speculation that LCS has positive impact on its beneficiaries. There has been increased demand from government of the republic of Zambia, private sector and other stakeholders to demonstrate scientifically proven positive impact of LCS on farmers if any.

1.6.JUSTIFICATION OF THE STUDY

Many reasons have been advanced for household food insecurity in most African countries among them, the lack of security; people are constantly shifting, the low literacy levels of most rural farmers, the land tenure relations and the lack of access to markets.

This will among other things provide insight into how credit and service can improve in the small scale farming of Zambia. The findings of the study will assist policy makers in both the private and public sector to design programs in such a way that they benefit the small scale farmers.

1.7.SCOPE OF THE STUDY

The purpose of the study is to evaluate the impact of micro finance on small and medium enterprises in Zambia focusing on Lima Credit Scheme of the Zambia National Farmers Union. The study will focus on agricultural credit schemes and other agribusiness activities.

CHAPTER TWO: LITERATURE REVIEW

2.1. CONCEPT OF MICROFINANCE

2.1.1. Microfinance in General

Robinson (2001) refers to microfinance as financial services intended to meet the requirements of the low income and deprived individuals, mainly in the least developed countries, with the aim of fighting poverty and financial exclusion. Lenton and Mosley (2011) defined financial exclusion as the failure of poor people and low income earners to access the mainstream financial services. Microfinance concept and the issue of providing specialist financial services to low-income earners and poor existed as a poverty reduction innovation strategy from the 1970s (Toendepi, 2012). Robinson (2001) agrees with Ledgerwood (2000) on the fact that microfinance includes a wide range of financial services covering savings, credit, insurance, money transfers, and other financial products and customized services to suit the low-income and poor individuals.

Microfinance can also be viewed as a parallel finance model to the conventional banking system (Imran, Hulme, & Rutherford, 2002). Robinson (2001) expresses the fact that microfinance has a sharp contrast to the mainstream banking sector which extends larger

facilities only to those borrowers who can offer security or a business promise. Microfinance institutions serve microcredit to, small borrowers who are unsalaried, with limited or no collateral security for the purpose of reducing poverty (Mueller, 1993). An important aspect of MFI's that distinguishes them from moneylenders is that they charge significantly higher rates thus they have the ability to offer a better alternative. The MFI system uses a model that relies on social capital and a community back-up system that exists in low income and poor communities to guarantee loan repayments as opposed to collateral which most mainstream bank's needs (Imran et.al, 2002,).

Evolution of Micro-Finance

There is vast body of literature which shows that modern micro-finance first emerged in a village known as *Jobra* being the brainchild of one Professor Muhammed Yunus who was an Economics lecturer at a university in Bangladesh in the 1970s (Mustafa & Ismailov, 2008; Rankin, 2002). Micro-finance was first employed as a tool to fight poverty in Bangladesh before its subsequent growth to becoming a crucial role-player in poverty eradication globally – especially from the period 1970 onwards (Galema, 2011; Taiwo, 2011). The popularity of micro-finance became so intense that it was declared the best tool ever in poverty eradication – culminating in the year 2005 being declared the International Year of Micro-credit – winning Muhammed Yunus; the father of micro-finance the 2006 Nobel Peace Prize in the process (Hoskinson, 2008). To boost worldwide micro-finance initiatives, the United Nations (UN) General Assembly designated the year 2005 as an international year for Micro-credit. Prior to this assembly, the importance of micro-finance was also raised in 2004 at the G8 Summit in Georgia, United States of America (USA). Then, the Commission for Africa Report of 2005 and later the G8 Glen Eagles Summit of 2005 held in Scotland also raised the importance of micro-finance. The Micro-credit campaign of 1997 also set an ambitious goal of reaching 100 million adopters of micro-finance from the poorest of the poor in the world by 2005 (Micro-credit Summit Secretariat, 2001).

In modern economy, it must be emphasized that micro-finance is also becoming popular even amongst the biggest economies such as China. For example, in October 1993, China introduced government-sponsored micro-finance scheme based on the model of the *Grameen* Bank of Bangladesh to alleviate poverty amongst its poor. The scheme was introduced in the Xiling Township of the Hebei Province. According to Annim (2010), there has been high proliferation of Micro-finance Institutions (MFIs) which until 2007 had invested approximately five billion US Dollars in regions such as the Asia, Africa and Latin America amongst others. The view of a plethora of micro-finance advocates is that micro-finance raises household incomes, promotes entrepreneurship, and increases access of children to education while also

encouraging domestic savings amongst poorer households – especially in the developing regions where the majority of the populace lack resources (Odell, 2010).

Since the inception of micro-finance, the institution has been growing tremendously making micro-finance one of the best pro-poor policies ever – especially post-independence in most countries in the Sub-Saharan Africa region in particular. There are a variety of micro-finance service providers in almost every developing country. For example, Kato & Kratzer (2013) mentioned that Savings and Credit Cooperative Organisations (SACCOs) provided micro-finance in Tanzania since 1965 – especially to those borrowers in farming. Data from The Mix Market in 2010 showed the African microfinance sector as having 4.5 million borrowers and a gross loan portfolio of 4.6 billion US Dollars (Mftransparency, 2012). However, Finscope (2009) asserted that in terms of scale, Zambia ranks low in Sub-Saharan Africa by gross loan portfolio at twenty-six out of thirty-two countries. In terms of number of active borrowers Zambia ranks slightly higher, at twenty-one out of thirty-two countries. This is due to the comparatively small size of the average loan accessed by borrowers in Zambia. The Microfinance sector in Zambia is unusually undeveloped, even by African standards. The sector is young, small in size, fragmented, and has a limited outreach. Financial inclusion is low, at approximately 37.3% of adults and the demand for microfinance in Zambia is high. Although well diversified, with a variety of different institution types, the sector has had limited support and will have to overcome many challenges in its development.

2.1.2. Microfinance as a tool for development and poverty alleviation

Poverty is as old as most countries all over the world. What differs is the degree of it, the category Zambia finds itself in is least developed country (LDC). Different methods and approaches have been used to alleviate or to eradicate poverty, micro financing being one approach. Other schools of thought are investments in education as a solution to alleviating poverty. One such is UNICEF (2011) that through its study, concluded that if countries would spend more on education development, for example on adolescents' capacities and values that could enable an entire generation become economically independent. In addition, the adolescents would become positive contributors to the development of society. The UNICEF further argued that increased investment in education and training for adolescents and young people in particular, might effectively play a major role in ending extreme poverty bedeviling poor countries and smaller economies during this decade.

On one hand, Kessy & Urio (2006) concluded that Microfinance could be a major element and an effective poverty reduction mitigating tool, especially amongst the poor such as women in their study conducted in Tanzania. However, such interventions should be catalyzed with some improved access to credit facilities, improved savings and insurance facilities to the poor in particular. We recognize the view that there are some emerging studies on microfinance as a tool for poverty alleviation disputing the assumption that microfinance allows for the poor to build their assets both at household or micro-business levels (Mokhtar, 2011).

Microfinance generally seeks to develop the poor's ability to free themselves from poverty. Usually this is ensured by giving them means to start micro enterprises which could in turn enhance their household income earning capacity and subsequently also improving their household and individual quality of life (Taha, 2012; Mokhtar, 2011). The plethora studies already existing on poverty and microfinance furthermore argue that the Microfinance Institutions (MFIs) could also be useful with regard to poverty reduction and alleviation by amongst others, empowering vulnerable women; developing the business sector through growth potentials, and furthermore developing a parallel financial sector. Research on microfinance and poverty in the developing regions has generally concluded that without permanent access to institutional microfinance, poorest households in the developing regions would continue to rely on small-scale self-finance or informal sources of microfinance such as women clubs – a factor which could limit their ability to actively participate in mainstream economic activities and other development opportunities. Access to microfinance could be vital for the poor who live in developing countries for becoming successful micro entrepreneurs.

2.1.3. Micro-finance and poverty in the developing regions

Findings of the Hulme and Mosley studies imply that credit is only one factor in the generation of income or output. There are other complementary factors, crucial for making credit more productive. Among them, the most important is recipient's entrepreneurial skills. According to UN/DESA paper (2009), "Microcredit is a necessary but not a sufficient condition for micro-enterprise promotion". Other inputs are required, such as identification of livelihood opportunities, selection and motivation of the micro-entrepreneurs, business and technical training, establishing of market linkages for inputs and outputs, common infrastructure and sometimes regulatory approvals. As a matter of fact, most promoters of microfinance does not

wholly disagree that microfinance alone cannot do the job as further echoed at Microcredit summit directors.

In the words of Professor Yunus (2003; emphasis added), “...*Micro-credit is not a miracle cure that can eliminate poverty in one fell swoop. But it can end poverty for many and reduce its severity for others...*” This positive role of micro-finance should not be dismissed altogether. Microfinance, thus, fulfils an important safety-net task, especially in countries where there is no state-sponsored social security system. In difficult times, the poor can first turn to family and neighbours. But in a situation of generalized poverty or economy-wide crisis, the poor will have to go to money lenders or to the employer/landlord for whom she or he works. If MFIs extend lending to the very poor in these circumstances then they can help break the power and hold of such creditors who operate in the inter-locking credit and factor markets. Although high, the interest rates charged by the MFIs are lower than the rates charged by informal creditors. In other words, the rapid expansion of microfinance has empowered not just women, but all small borrowers.

There is also the learning-by-doing effect. Even when own labour in micro-enterprises is given a zero shadow price, the people who are involved benefit. They learn some basic principles of business, and with luck, and perhaps some help, may be able to become more viable and even expand. So, with their support and training programs, many MFIs are making some useful contributions. Micro-finance, thus, gives the unemployed and the poor some opportunities, hope and self-esteem. Being employed, whether self-employed or by an employer, gives a person significant boost to his/her sense of self-respect and dignity. Furthermore, microcredit allows people to signal their creditworthiness. If their success makes banks more willing to lend them larger sums and leads to even more economic activity, then that should help reduce poverty in the long run. Finally, being successful business ventures, microfinance institutions themselves have also created a large number of good paying jobs. Good jobs created by successful MFIs should have considerable multiplier effects.

Empowerment of the vulnerable through Micro-finance

Women in the developing regions are mostly poor in terms of money metric terms and resource access and distribution. The ability of women to access productive resources and to also accumulate productive resources is seriously impeded by the state, the family, the community and the market amongst others (Deere & Doss, 2006). Women are also the most illiterate, discriminated against with regard to access to and participation in mainstream economic and

social activities – therefore suffering exposure to household violence and manipulations. Women are because of their socio-economic deprivation dependent on meager resources which are often based on informal small-scale activities such as agriculture, marginal self-employment or other sources of social welfare by donors and/or governments amongst others (Kirsten, 2011). Based on these assertions, Mafukata (2012) therefore argued that integration of women into the major economic subsectors should receive outmost priority both at policy; donor and development facilitation levels – the primary goal being poverty alleviation and increasing of economic opportunities amongst women. Micro-financing of women remains a critical strategy and tool to empower women – especially where such women have some sense of developing and promoting small-scale enterprises that could assist them and their households to increase household disposable income for example (Jegede *et al.*, 2011; Odell, 2010; Mustafa & Ismailov, 2008).

2.1.4. General Governance and Regulatory Framework that have influenced the Agricultural Financing and Marketing in Zambia-First Republic

At the birth of Zambian independence an agricultural policy regime was inherited that prioritized maize production and marketing support to a meager population of European Progressive African producers, while technically ostracizing the majority of African producers' remunerative agricultural markets (Chipungu 1988) and the motivation behind these biased policies was twofold. First, the colonial regime wanted to create a cheap pool of surplus hands for mining operation on the mining region, in part this was achieved through government monopolies on grain markets, which allowed the colonial regime to control prices offered to different segments of producers (Chapoto and Sitko 2015). In practice this meant that progressive African producers and European famers sold grain through the grain marketing board (GMB) at elevated prices while the reminder of African producers sold through the African rural marketing scheme (ARMS) at substantially discounted rates. The combination of hut taxes and systematically lower grain prices paid to most African producers forced many Africans from rural areas to seek out wage jobs in mines (Chapoto and Sitko 2015). The second motivation for maintaining low producer prices for African famers was to help maintain low consumers' maize prices in urban areas. Thus at independence the newly formed government inherited a system in which discriminatory policies created huge disparities both within the African farming community and between urban and rural population. Yet while much of the first national development plan for Zambia (FNDP) paid rhetorical attention to these inherited

biases, particularly those between urban and rural there was little structural change in terms of policies. Under the FNDP 15% of the total public investment outlays was allocated to agricultural development. However, like the colonial government the primary policy thrust for agriculture was focused on maize production with particular attention given to a minority of surplus producers this focus on surplus producers reflects a desire on the part of the government to maintain a steady supply of low cost maize to the more political visible and active urban areas (Chapoto and Sitko 2015).

It is important to note that these programs were grafted onto a rural economy characterized by significant inequality in wealth and assets in part due to previous policies. Thus, while government marketing activities were expanded, the surplus purchased by the government continued to come overwhelmingly from a small minority of producers. The damage that treasury sustained from these policies was enormous when the government introduced fertilizer subsidies in 1971 to 72 .These were 30% of the total cost of averaged 60% by 1982 (Howard and Mungoma 1996).

As a result of marketing and input subsidy programs in Zambia, maize production was stimulated in areas remote from consumers' demand, where costs of access were high. The consequences were that surplus production which NAMBOARD had an obligation to handle, had grown in areas where the marketing costs were in excess of the marketing margins allowed by government. NAMBOARD soon attracted criticism as cost appeared to be too high and performance was very poor with farmers failing to receive inputs on time and late payment for crops purchased (Chapoto and Sitko 2015).

Agricultural Financing and Marketing in Zambia-Second Republic

In the late 1980s, NAMBOARD's maize operation accounted for 15% of government budget, contributing to the micro economic crisis (Tembo et al 2009). NAMBOARD was both a cause and a victim of the government's inability to contain maize subsidies. (Kydd 1986) To curb costs and improve the situation, co-operatives were introduced to take over the intra provincial crop marketing. This inherited most of NAMBOARD's monopoly in controlled products (maize, oilseeds etc.) The role of NAMBOARD was reduced to inter provincial trade, stock holding, and import or export (Kydd 1986). By 1984, the Zambian cooperative federation (ZCF) and its member societies were actively involved in agriculture marketing, initially as agents of NAMBOARD. However later in 1988, government re-assigned all marketing functions to cooperatives, while NAMBOARD's sole responsibility would be the importation

of fertilizer and maintenance of the strategic maize reserves (Ojermark and Chabala 1994). Despite these efforts, years of mismanagement coupled with deteriorating economic conditions forced the government to dissolve NAMBOARD in 1989, and all its functions were transferred to ZCF.

While these policies on the production sector were being pursued, the Zambian government also embarked on a subsidization program of the main staple food mealie meal (Chizuni 1994). According to Chapoto and Sitko (2015) the Zambian government's intention was to provide nutritious basic food to all Zambians. Maize was promoted as more nutritious than other staples such as millet, sorghum and cassava by the Zambian government. Consumer subsidies added to the stress on the treasury.

By 1976 the Zambian government had a balance of payment crisis and became indebted to the international monetary fund (IMF). Due to increase in IMF and donor influence radical policy reforms were passed between 1979 and 1982. This included the removal of government price fixing on all crops, except maize reduction in producer and consumer subsidies, removal of state monopoly, marketing rights and encouragement of foreign agribusiness (Kean and Wood 1992). The effort to liberalize the economy started in the early 1980s, when government removed subsidies on crops such as sorghum, millet and cassava (Chapoto and Sitko 2015). The subsidies on maize were to be removed gradually over the years. In 1984 the maize subsidies were just 5.5% of domestic expenditure, but they later increased to 16% (Simatele 2006). The subsidies on maize were eventually removed, but this coupled with increase in the exchange rate, sparked major food riots. The government had to abandon the reforms and re-introduced the subsidies in 1987 (Simatele 2006). What followed was a withdrawal of IMF debt payment support and a rapid collapse of the Zambian economy. Other food-related food riots occurred in 1991 and the fear of treating maize as a dangerous political crop had continued to shape agricultural policy in Zambia (Chapoto and Sitko 2015). This is despite the structure of production and consumption of mealie meal being considerably different in the 2000s compared to what it was in the late 70s, 80s and 90s.

Agricultural Financing and Marketing in Zambia-Third Republic

The UNIP government lost elections in 1991, ushering into the Movement for Multi-Party Democracy (MMD) government, under Dr Fredrick Chiluba. This brought about the birth of the third republic. The agriculture policy development during the first two years of the third republic, was greatly influenced by the adoption of a structural adjustment program (SAP) agreed to with IMF and the World Bank. This

program basically focused on three economic goals;(1) to restore macro-economic stability through monetary and fiscal reforms, (2) to facilitate private sector growth by liberalization of price and exchange regulation and remove trade restrictions, (3) remove monopolies in the industrial and agricultural sector (Rakner 2003). These goals had serious implications for the agricultural sector. For instance, to restore macro-economic stability in the wake of the budget deficit of 7.3% of the GDP and an inflation rate of about 90%, the government immediately removed fertilizer and other input subsidies.

This action coupled with the environmental shocks such as devastating drought of 1991/1992 resulted in 39% drop in agricultural output (World Bank 1994). Furthermore, there was a sharp increase in the nominal prices of agricultural commodities such that a 25 bag of maize mealie meal increased to (kwacha) k1, 800 from k225 (Seshamani 1996)

Maize market liberalization started in 1991 when Chiluba government announced a floor price in 1991/1992 which quickly became recognized as official price. In 1993, the government announced its withdrawal from maize marketing and appointed a small number of principal buying agents (rural banks and cooperative unions) and allowed private sector traders to enter the maize market (Rakner 2003).The action of appointing buying agents by the government created confusion and distrust among the private traders who saw the appointed agents as a screen for continued government involvement in marketing (Howard and Mungoma 1996).

The crop marketing system however collapsed as buying agents misappropriated the funds and government was incapable of maintaining the floor price. The famers were issued promissory notes which were valid after 6 to 12 months (Howard and Mungoma 1996). The ever-increasing interest rates (50 to 120%) dampened private sector involvement in buying storing of maize.

Despite allowing the private sector to partake in the maize market, the government had not yet fully opened up the importation and marketing of fertilizer. Government through the Nitrogen chemicals of Zambia (NCZ) continued producing fertilizers intermittently. To this date, NCZ has continued to be obsolete and non-economic. Interestingly, this fact that seems to have escaped successive governments. Continued involvement by the government in the fertilizer supply was as a result of the prevalent belief that the private sector had not yet developed the capacity to supply fertilizer, especially to the smallholder famers in remote areas and that smallholder famers did not have the ability to purchase fertilizer on cash basis (Mwale and Mawele 1998).

The government still had not put a clear agricultural policy in place by 1993. This created challenges for other divisions in the agricultural sector. SAP did not adequately address some

key aspects of the agricultural sector such as extension services. The limited funding to this sector rendered the country ill prepared with the outbreak of cattle diseases such as foot and mouth diseases, heart water and east coast fever (Kalapula 2007). As a result, large numbers of cattle were wiped out in the greater parts of southern province. Since cattle are an important source of drought power, their loss reduced the area under cultivation and greatly affected farmers' livelihood.

The implementation of a liberalized policy called upon the private sector to freely participate in the trade of maize and inputs. The market determined prices, but owing to the limited capacity of the private sector, the government decided to establish the agricultural credit management program (ACMP) in 1994. This was an intervention aimed at implementing the efforts of the private sector, particularly it focused on building the capacity of the private sector through the provision of financial resources and knowledge of fertilizer marketing (Mwale and Maweale 1998). However, the performance of the ACMP was not satisfactory as the program had been characterized by very low recovery rates of less than 20% and continued heavy dependence on government funding for its operation (Rakner 2003).'

The National agricultural marketing act of 1989 was repealed in 1995 and this saw the passing of the food reserve act in 1995, which formed the Food Reserve Agency (FRA). FRA was originally conceived to hold buffer of stocks, dampen price variation and provide liquidity in the maize market. Since 1997, FRA handled roughly 22% of the country's domestically marketed maize (Jayne, Zulu, Kajoba et al 2008).

Although FRA's original mandate was not the procurement of maize and other commodities from farmers, their maize purchases became heavily trusted upon to provide direction for the commodities' prices between 1996 and 2002. Because of its importance in commodity price control, the government then assigned FRA to manage input credit to farmers and pan territorial pricing was introduced by the organisation. That move rendered private sector fertilizer uncompetitive to relevant distribution channels. This worked fine for the farmers, but the low credit repayments (around 10%) left FRA in debt and unable to achieve its stated goals. Several businesses belonging to members of parliament were in debt to FRA and this led to transferring its role in the fertilizer distribution to a different government program (Govereh Jayne and Chapoto 2008).

In 2002 the government announced the fertilizer support program (FSP) a subsidy program for maize seed and fertilizer, aimed at improving success of viable but vulnerable smallholder farmers. This replaced previous credit schemes. With a view of improving its operational efficiency and expanding the sphere of support to the farming community, the government restructured FSP in 2009. The program was also renamed to farmer input support program (FISP) (Govereh Jayne and Chapoto 2008). Over a three-year program, FISP has consumed the vast majority of the government's agricultural budget allocation to poverty reduction (Jayne and Sitiko 2012). FRA has increased its participation in maize marketing in the last decade. Figure 1.3 illustrates the share of the agricultural budget from 2002 to 2015 dedicated to these programs. It shows that the government has increased its share on the agriculture budget from below 40% in 2002 to as high as 90% in 2003.

From a political stand point, increased expenditure on maize subsidies appears to have paid dividend. In the 2006 general elections Levy Mwanawasa won convincingly with 43% of the total vote, beating his closest rival Michael Sata of PF who had 29.4%. MMD parliamentary majority had also gone up. Levy Mwanawasa and the MMD victory largely came from the rural constituencies of Zambia. Although Levy and the MMD had not won the agricultural provinces of eastern and southern, he had done well enough in the rural area of Zambia to now give MMD the rural agricultural party tag.

Relative calm returned as government reduced the FRA purchases in 2012 and 2013. Then 2014 rural parliamentary elections in Vubwi constituency in eastern province reversed that trend. This was an MMD area and the ruling PF wanted to construct roads in that province. Then the vice president announced at a rally that the FRA was going to buy maize beyond its strategic reserve goal of 500,000 MT (Lusaka Times). FRA ended up purchasing 1,031,303 in the 2014/2015 season. The PF candidate won the Vubwi election. In many ways, the fourth and fifth republics are therefore characterized by a combination of efforts to solidify political control in rural areas combined with the political uncertainty caused by both the death of a sitting president and a change of ruling parties. Efforts to win rural votes focused on both increasing support for input subsidies for maize and output markets support through the FRA.

Evidence suggests that prioritising FISP and FRA as the cornerstone of poverty reduction has had little or no measurable impact on rural poverty. Rural poverty rates have actually increased marginally from 77.3% in 2004 to 77.9% in 2010, despite a major scaling up on FISP and FRA.

Evidence shows that FISP has not succeeded in reducing rural poverty in Zambia. The Central statistical office (CSO) consistently show that FISP fertiliser and maize seed have been allocated disproportionately to households with relatively large farms and greater asset wealth (Burke and Sitko 2012).

The verdict on the FRA is equally bleak, given that decades of government policy have done little to address the high level of inequality within Zambia. Maize production from smallholder farmers is highly concentrated. Depending on the year between 3 and 5% of smallholder farmers sell 50% of all their maize. Another 20 to 30% sell to the remaining 50%. Given that most farmers particularly the poorest farmers neither sell maize nor are net buyers of maize, FRA purchase at the very least does nothing to help the majority of the rural poor and likely makes conditions worse for them by pushing up maize prices.

2.1.5. General Financial and Credit Schemes in Zambia

Going through the history since independence, credit schemes have been a prominent vehicle for implementing subsidies especially in first and second republic. According to IAPRI (2015) no agriculture credit program existed for the mass producers at independence. Hence the establishment of the credit organization of Zambia (COZ) in 1966 through the increased network of farmer cooperatives the government supplied subsidized fertilizer and seeds on credit to the farmers. The Ministry of Development Planning and Guidance (1972), noted that by 1969, the credit machinery needed an overhaul because arguably the operation of the COZ were characterized by a high rate of default in loan repayment. Suffice to say that at that time, the purpose of credit may have been misunderstood, abused and the administrative structure proved inadequate to allocate, distribute and recover loans efficiently.

The notion of schemes was a central part of the first republic agriculture development plan and was called productivity schemes which had similar approach as was seen in colonial progressive African farmer scheme, which provided market support, input credits and extension services to a selected minority of African farmers. The rationale for continuing with these discriminatory policies was to target and secure substantial increases in individual productivity and to foster radical changes in the social organization of scattered rural population (Chapota and Sitko, 2015).

Similar to current approach of targeting, first republic targeting was based on economically viable smallholders which also resembles to public spending that seek to target the vulnerable

yet viable with maize input subsidies. Like these current approaches in practice, these strategies tended to segment rural population between a small minority able to access government support and a majority that cannot. Thus in many ways while the post-independence government recognized the economic disparities it inherited from the colonial government policies pursued after independence tended to entrench these disparities rather than address them (Chapoto and Sitko 2015).

Chapoto and Sitko (2015) further argues that while agriculture policies in Zambia during the early post-independence period showed outstanding continuity with the colonial past, the boarder role of the state in the economy was transformed. Through the 1968 Mulungushi reforms the government undertook rapid nationalization of the economy to pave way for state led development. Under this reform the government professed its intention to obtain equity holdings (51% or more) in a number of key foreign owned firms to be controlled by the industrial development corporation (INDECO). In 1969 the subsequent Matero economic reforms resulted in the Zambian government pursuing 51% shares from the mining companies (Chapoto and Sitko 2015). According to Turok (1989), Nationalization enabled the government to control 80% of the economy through the parastatals involved in mining, energy, transport, finance, agriculture and trade.

Following the nationalization of the economy in 1969 it can be argued that there was reasonable economic growth due to high copper production and prices as well as increased production of maize. According to Howard and Mungoma (1996), in the agriculture sector the first significant policy shift to occur was the creation of a pan territorial pricing system for maize through NAMBOARD in 1974. Politically a uniform price to all Zambians was seen as fair and the creation of pan territorial pricing was complemented by a growing network of famer cooperatives and government subsidized fertilizer and seeds through a series of various credits schemes. The state saw the provision of marketing opportunities to all famers as one of its responsibilities and therefore it expanded the centralized marketing organization. The government increased the number of crops for which it set the producer and consumer prices. In addition, state organization were added to play the guaranteed market role that NAMBOARD played for maize and other crops specifically government created LINCTO for seed company (Chapoto and Sitko 2015).

Chapoto and Sitko (2015), shows that with regard to credit the COZ was replaced by the agriculture finance company AFC which was established in 1974 and its main function was to

provide loans to the famers. However, the company was unable to meet the demand for the agricultural loans as it was faced with the challenge of recovering money from famers. This led to the establishment of the Zambia agriculture development bank (ZADB) in 1979 whose objectives was to boost the agriculture and fisheries output. The bank gave financial and technical assistance to the farmers and fishermen. It also provided extension services to its clients (Chapoto et al 2012). Due to the inability of the AFC to meet its overhead costs and low recovery rates (20% on cumulated loans), the government formed the Lima bank in 1986 out of the merger of the AFC and the ZADB. This was in an effort to strengthen the provision of the agricultural credit in Zambia. Thus according to MAWD in Chapoto and Sitko (2015), the main objective of the Lima bank was to contribute to the nation development through the promotion and modernization of agriculture. fisheries and the agro industries. The bank provided credit to all three classes of famers small, medium and large scale famers, however greater emphasis was paid to the needs of the small scale farming community. The bank had also a credit policy that required that agricultural research efforts were to be directed towards the needs of the small scale famers engaged in the production of the marketable commodities. Lima bank failed primarily due to extremely poor credit repayment and a large part of unpaid portfolio was loans given to top ranking government officials (Dodge 1977). By the late 80s Lima bank was highly in debt and may have been insolvent.

In response to these failures and in recognition of the crucial role that credit can play in alleviating rural poverty, innovative credit delivery systems started emerging and being promoted throughout the developing world. Zambia inclusive is also trying to find efficient ways of improving rural households' access to formal credit with no or minimal government involvement.

Micro credit also known as micro finance has emerged in Zambia as the newest darling of the aid community. Micro finance refers to financial services like small loans, savings, and in recent times insurance and transfer payment services. The motivation behind micro finance is that financial institutions can encompass loans to the poor, although at the same time, making a sensible profit, by charging high interest rates.

Generally micro finance norms in Zambia take after the Grameen Bank of Bangladesh now the model for development lending. The bank was established in Bangladesh in a very similar environment like that of Zambia, by an individual who began lending to the poor to prove that non- collateral lending to the poor was viable. 20 years on, Grameen Bank lends to 350 000

villages in Bangladesh and has a loan portfolio of USD 400 million at an average size of USD 140. The size of the loan portfolio is larger than any other bank in Bangladesh and Grameen Bank has lent a total of USD 1.5 billion since its inception. Bad debt is only 0.5% of the total lending and the poverty alleviation success of Grameen Bank is unparalleled in Bangladesh (Daley- Harris 2002; Micro credit Summit 1996).

The institutions providing micro finance services are as follows:

- (a) Micro finance NGOs
- (b) Finance Companies
- (c) Cooperatives and
- (d) Community Based Organization

Most of micro finance institutions in Zambia are still small with low institutional capacity.

5.1.6 Conclusion

It is clear from the literature review that a number of interventions since independence have been deployed with a view of improving productivity and incomes among small and medium scale farmers. For example, FISP, FSP, ASIP, RIF and ACMP among others were aimed to achieve the above discussed objective. However, it is evident that for example maize yield per hectare has remained static (national average of 2 tonnes per hectare as of 2015) and farmer's still face challenges in accessing finances for their production. That is, a research conducted by FinMark on the supply side of financial services in Zambia reported that approximately 66% of the total population in Zambia is excluded from mainstream financial services (Finmark, 2009).

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

Discussion in this section is structured around the research design, population sampling techniques, sources of data collection procedure, data analysis, research limitations and ethical considerations. (Polit, Beck, & Hungler, 2001) states that research methodology refers to techniques of acquiring, organising and analysing data. Methodology is simply described as the method or means of doing something (Mouton, 2000). According to Henning (2004) methodology is a logical group of methods that complement each other have the capability to deliver data and research findings that will answer the research question and suit the researcher objective.

3.2. Theoretical Framework

The provided theoretical frameworks and models provide the basis and guidelines for the analysis of this study. There are various theoretical frameworks in the field of micro-finance impact studies. Despite inadequate data in this field, it is clear that a wide variety of implementation methods are employed by different MFIs. According to Taha (2012), The Grameen Bank identified fourteen different microfinance models of which the paper focuses on 3 models and adopts one of them namely: Rotating Savings and Credit Association (ROSCAs), the Grameen Bank and the Village Banking models.

Rotating Savings and Credit Associations: These are formed when a group of people come together to make regular cyclical contributions to a common fund, which is then given as a lump sum to one member of the group in each cycle (Grameen Bank,). According to Harper (2002), this model is a very common form of savings and credit. He states that the members of the group are usually neighbours and friends, and the group provides an opportunity for social interaction and are very popular with women. They are also called merry-go-rounds or Self-Help Groups (Leadgerwood 1999).

Village Banking Model: Village banks are community-managed credit and savings associations established by NGOs to provide access to financial services, build community self-help groups, and help members accumulate savings (Holt, 1994). They have been in existence since the mid-

1980s. They usually have 25 to 50 members who are low-income individuals seeking to improve their lives through self-employment activities. These members run the bank, elect their own officers, establish their own by-laws, distribute loans to individuals and collect payments and services (Grameen Bank). The loans are backed by moral collateral; the promise that the group stands behind each loan (Global Development Research Centre, 2005). The sponsoring MFI lends loan capital to the village bank, who in turn lend to the members. All members sign a loan agreement with the village bank to offer a collective guarantee. Members are usually requested to save twenty percent of the loan amount per cycle (Ledgerwood, 1999). Members' savings are tied to loan amounts and are used to finance new loans or collective income generating activities and so they stay within the village bank. No interest is paid on savings but members receive a share of profits from the village bank's re-lending activities. Many village banks target women predominantly, as according to Holt (1994) "the model anticipates that female participation in village banks will enhance social status and intra-household bargaining power".

The Grameen Solidarity Group model: This model is based on group peer pressure whereby loans are made to individuals in groups of four to seven (Berenbach and Guzman, 1994). Group members collectively guarantee loan repayment, and access to subsequent loans is dependent on successful repayment by all group members. Payments are usually made weekly (Ledgerwood, 1999). According to Berenbach and Guzman (1994), solidarity groups have proved effective in deterring defaults as evidenced by loan repayment rates attained by organisations such as the Grameen Bank, who use this type of microfinance model they are highlight the fact that this model has contributed to broader social benefits because of the mutual trust arrangement at the heart of the group guarantee system. The group itself often becomes the building block to a broader social network.

The study adopts the Grameen Solidarity Group model for its understanding, data analysis and interpretation. This is because LCS an agricultural inputs loans, focuses on otherwise unbanked small scale farmers of Zambia and originated out of a felt need by SSFs for fairly priced cash-collateralized loans for their agricultural inputs. Further the success or failure by farmers to pay back the loan is dependent on the group solidarity.

Some scholars have however argued that poverty is more than just a lack of income. Wright (1999) highlights the shortcomings of focusing solely on increased income as a measure of the impact of microfinance on poverty. He states that there is a significant difference between increasing income and reducing poverty. He argues that by increasing the income of the poor, MFIs are not necessarily reducing poverty. It depends what the poor do with this money, oftentimes it is gambled away or spent on alcohol (1999), so focusing solely on increasing incomes is not enough. The focus needs to be on helping the poor to “sustain a specified level of well-being” (Wright, 1999) by offering them a variety of financial services tailored to their needs so that their net wealth and income security can be improved. It is commonly asserted that MFIs are not reaching the poorest in society. However, despite some commentators’ scepticism of the impact of microfinance on poverty, studies have shown that microfinance has been successful in many situations. According to Littlefield, Murdugh and Hashemi (2003, p.2) “various studies, document increases in income and assets, and decreases in vulnerability of microfinance clients”. They refer to projects in India, Indonesia, Zimbabwe, Bangladesh and Uganda which all show very positive impacts of microfinance in reducing poverty. For instance, a report on a SHARE project in India showed that three-quarters of clients saw “significant improvements in their economic well-being and that half of the clients graduated out of poverty” (2003). Dichter (1999) states that microfinance is a tool for poverty reduction and while arguing that the record of MFIs in microfinance is “generally well below expectation” he does concede that some positive impacts do take place. However, studies show that when MFIs such as the Grameen Bank and BRAC provided credit to very poor households, those households were able to raise their incomes and their assets.

3.3. Research Design

A research design is the plan and operational procedure for research that encompasses decisions from broad assumptions to more detailed methods of data collection and analysis (Creswell 2008). The major function of a research design is to ensure that the facts obtained allow us to answer the initial research question as accurately as possible. A research design is defined by (Creswell 2008) as “a blueprint for carrying out a research study with total control over issues that may obstruct the authenticity of the findings.

This is a mixed-method study. As such, the study adopted both qualitative and quantitative approaches to fulfil its objectives. The choice for both the quantitative and qualitative approaches was mainly influenced by the fact that each approach has its own shortcomings –

and employing both approaches would enhance the opportunities of improving on the quality of the study – especially with regard to the nature of the data collected (Creswell 2008)

3.4. Challenges and Limitations of the Study

This study experienced challenges and limitations, as presented below, however, such were addressed sufficiently to meet the objectives of the study.

Fungibility of funds: Fungibility of funds takes place when beneficiaries of inputs tend to benefit from multiple other sources apart from LCS therefore creating a situation where benefits could be overestimated. When such incidences take place, it becomes difficult to determine and measure what the source of impact exactly is in terms of monetary benefits to the respondent because the other income from the other sources might have also played a role in such impact. In order to remove any possibility of *fungibility*, the data collection (questionnaire) was adjusted to indicate categorically each respondent to state specifically income from LCS produce and sales. For example, the researcher started with pre-testing the data collection instrument before data collection. The pre-testing of the questionnaire instrument assisted in the determination of any possibility of *fungibility* during data collection. The questionnaire was then adjusted to avoid any eventuality of *fungibility* of funds.

Selection bias of beneficiaries: This occurs when beneficiaries are selected from active participants only without considering non-participants. Selection bias poses problems in terms of drawing comparisons between participants and non-participants; women and men, rural and urban as the case may be. Crucially though is the fact that having both the participants and non-participants in the sample frame further poses additional challenges of bias because “it is difficult to find non-participants in microfinance who have similar characteristics to the participants” This factor was comprehensively argued against by Berhane and Gardebroek (2011) in a study conducted in northern Ethiopia who submitted that when one compares non-participants with participants in microfinance schemes the results revealed that there were increased chances of bias because it remained possible that the participants in the scheme might already have such critical initial advantage – for example through advanced and better skills adopted through training than the non-participants.

To mitigate this, the study ensured fair representation of districts and Zambia’s ecological zones as shown in the study methodology. Further, after purposively constructing a sampling frame of LCS beneficiaries, a simple random approach was deployed to avoid biasness.

Language barrier: Most of the beneficiaries were not conversant or able to read English and for some not even the widely spoken local languages. Such eventualities were anticipated after observing such challenges in other related studies (Matovu, 2006; Mafukata, 2012). In the case of Matovu (2006), the limitation was better addressed because both the interviewer and the assistant spoke the local language – and they had to translate the questions directly from the English Version instrument without needing any translation assistance. However, Bryman (2012) preferred to translate the questionnaire instrument prior to interviews arguing that translations conducted during interviews pose serious reliability of data challenges. This study adopted the views of Mafukata (2012) for the simple reason that direct translations are accompanied by an assortment of further challenges; this study adopted the approach recommended by Matovu (2006), the limitation was better addressed because the researcher and research assistants spoke the local language – and they had to translate the questions directly from the English Version instrument without needing any translation assistance.

Inadequate data on the impact of MFIs in Zambia: The study faced challenges in finding data on impact of MFIs on beneficiaries in Zambia, making it difficult to benchmark.

3.5. Population and Sampling

3.5.1. Population

According to Wagenaar and Babbie (1983) population is defined as the collective individual items from which a survey sample is derived. The research population consists small scale framers being serviced by LCS and other key stakeholders like the ZNFU staff, government and relevant associations to the study.

Currently, the LCS is operation in the following Provinces and Districts where the farmers to participate in the survey will be picked:

- Central Province: Kabwe, Mkushi, Chibombo, Kapirimposhi, Mumbwa, and Serenje
- Copperbelt Province: Chililabombwe, Chingola, Ndola, Mufulira, Luanshya, Mpongwe East/West and Lufwanyama
- Eastern Province: Nyimba, Chama, Petauke, Chipata, Katete, Chadiza and Lundazi
- Luapula Province: Samfya, Nchelenge, Mwense, Lubwe, Milenge, Kawambwa and Chiengi
- Lusaka Province: Chongwe and Kafue

- Northern Province: Chilubi, Chinsali, Isoka, Kaputa, Kasama, Luwingu, Mbala, Mpika, Mporokoso, Mpulungu, Mungwi and Nakonde
- North Western Province: Mwinilunga, Solwezi, Zambezi, Kasempa, Kabompo, Mufumbwe and Chavuma
- Southern Province: Kalomo/Choma, Mazabuka, Itezhitezhi, Namwala, Monze, Kazungula/Livingstone and Sinazongwe
- Western Province: Sesheke and Kaoma.

3.5.2. Sampling

Sampling is defined by Polit and Hungler (2009) as a process of choosing a portion of the population to represent the whole population. A good sample should have sufficient size to permit statistical operations to be conducted (Castillo, 2009). Non-Probability and probability sampling methods are the main two classes of sampling methods used in research. The researcher used stratified and simple random technique. The strata were according to the categories of stakeholders and size of farmers. Simple random technique was used to select farmers who participated in the survey.

3.6. Data Collection

In the study the researcher targeted to collect data using problem related questions to target participants. The interview guide questions were also used to collect data guided by the objectives and research questions as stated above.

3.7. Research Ethics

When the research will be conducted the following ethical considerations as stated by Polit and Hungler (2009) will be considered: Permission to conduct the study in each of the organisation was done prior to the study. Cooperation from the respondent was requested in advance and effort not to disrupt normal flow of work in the organisation. This was requested through a letter of consent and an introductory letter from the University.

3.8. Research Instruments

Bryman (2012) identified three methods of collecting primary data namely, observation, questionnaire, and in depth interviews. The researcher used both the questionnaire and interview guide to collect data from the target population. The researcher used the questionnaire as the primary data collection method with the view that this would be more

accurate and relevant to the research being conducted. The questionnaire was chosen for the following reasons: -

- i) To minimize interview bias;
- ii) To minimize subjective analysis and interpretation;
- iii) Findings can be easily quantified; and
- iv) It allows easier analysis of findings.

A semi-structured questionnaire was administered to 120 farmers who were beneficiaries of Lima Credit Scheme to collect household data. This was after a successful pretesting which allowed amendments according to the feedback obtained during pretesting. In addition, guiding questions were used for the focus group discussions and key informants by the researcher. The semi-structured questionnaire had 4 main sections that include demographics, Benefits accrued to farmers that have accessed the credit scheme, Major factors that may affect the performance of LCS of ZNFU and how governance and regulatory framework variables are impacting on the performance of LCS. The semi-structured questionnaire and the guiding questions were influenced by literature review on the impact and benefits that tend to accrue to farmers/agro processors who participate on any form of agricultural financing or schemes like the LCS. The questionnaire and sections described above were designed to respond to the following research objectives;

- I. To assess the benefits accrued to farmers/agro-businesses that have accessed the credit scheme.
- II. To establish which are the major specific factors that are affecting the performance of LCS of ZNFU.
- III. To investigate how governance and regulatory framework variables are impacting on the performance of LCS.

Most of the questions in the questionnaire were on a Likert-type scale ranging from 1 (Strongly agree) to 5 (Strongly disagree) on the benefits and impact of LCS on farmers/agribusiness. Only few questions especially in the section to do with governance and regulatory framework were open ended. Please refer to annex III for a detailed questionnaire and guiding questions

3.9. Data Analysis and Presentation

Emergent categorisation was defined by Powell and Marcus (2003) as a process of finding issues and themes that recur in the data and grouping them into logic categories. Categorisation

process allows the categories to emerge from the data thus the term emergent categorization. The study adopted emergent categorization in data coding. Narrative description which cited some words used by participants was used to capture respondents' real views. Transcription of qualitative data was done to ensure accuracy and efficiency in data capturing. Data from interviews was analysed to allow the researcher to make sense of different responses from interviewees. The main role of analysis was to come up with evidence that justifies claims that the study changes knowledge or beliefs it is of sufficient value (Howard and Sharp 1983). Data presentation methods that include the use of graphs, tables and pie charts will be used.

As discussed above, data was collected from a total of 120 respondents via interviews using a semi structured questionnaire and a total of 30 other respondents were interviewed using guided questions via FCDs and KII. The sample size was influenced by several factors that include both time and financial resources limitations of which only 113 were suitable for analysis. Descriptive statistics were used to define the sample characteristics. To explore the fundamental associations among the variables of interest and to scrutinize the extent to which the independent variables contribute to the impact of LCS on farmers/ agribusiness, factor analysis was employed. The quantitative analysis was assisted by SPSS.

3.10. Conclusion

The research employed both quantitative and qualitative approach in data collection, analysis and report writing. Respondents were drawn from 8 of the 42 districts where LCS is in operational. The researcher used stratified and simple random technique. The strata were according to the categories of stakeholders and size of farmers. Simple random technique was used to select farmers who participated in the survey. A semi-structured questionnaire and guided questions were used to collect data at household level and FGDS/KII respectively. Most of the questions in the questionnaire were on a Likert-type scale ranging from 1 (Strongly agree) to 5 (Strongly disagree) on the benefits and impact of LCS on farmers/agribusiness. Descriptive statistics were used to describe the sample characteristics. To find the underlying relationships among the variables of interest and to examine the extent to which the independent variables contribute to the impact of LCS on farmers/ agribusiness, factor analysis was employed aided by SPSS.

The study faced challenges, however measures to mitigate the challenges were put in place. Research challenges included limitation of funds, selection bias of beneficiaries and language barrier.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1.Introduction

This chapter presents the results of this study. Results are presented in two main categories namely descriptive statistics to describe the sample characteristics and factor analysis to explore the underlying relationships among the variables of interest and to examine the extent to which the independent variables contribute to the impact of LCS on farmers/ agribusiness. With the population of about 18,000 Lima Credit Scheme beneficiaries as of 2014/2015 farming season, the computer aided scientific calculations for the sample size was 375 out of the population of about 18,000 beneficiaries at 95% confidence level and 5% confidence interval/ margin of error. This followed a purposive selection of 8 districts out of 42 districts of Zambia where the scheme is operational. The districts are Kazungula, Choma, Katete, Kapiri, Mpongwe, Kasama, Lundazi and Mkushi. The districts are a representation of those along the line of rail, peri urban and rural based and ensuring that they cut across all the 4 Zambian ecological zones.

However, due to financial and time constraints, the study reduced the sample size to 120 however maintaining the whole procedure including the sampling methodology. Therefore, this study is based on 120 farmer respondents.

The discussion of the results was aided by field notes, data collected from focus group discussion and key informants. Members of the focus group discussion were drawn from Lundazi and Mazabuka district farmers' associations and these are ZNFU structures at district levels. Two focus group meeting were held, one attended by 8 members and the other by 11 members.

The key informants were drawn from ZNFU, Zambia National Commercial Bank and representatives of the Agri business chamber.

Table 1 shows the items used in the data collection instrument and the descriptive statistics.

Table 1 Measurement items and descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Are trainings beneficial	120	1	2	1.57	.498
Is Qty & Qly of inputs satisfactory	120	1	2	1.77	.425
Increase in area planted	120	1	3	1.70	.528
Increase in yield per Ha	120	1	4	2.00	.935
Access to market information	120	1	3	1.63	.607
Access commodity markets	120	1	3	1.63	.549
Increase in sold volumes	120	1	4	2.33	.833
Increase in income	120	1	4	1.87	.673
Able to reinvest in other business	120	1	3	1.90	.541
Loan insurance cover is one good benefit	120	1	3	1.67	.653
Able to acquire agric assets-Ox drawn	120	1	5	2.50	1.123
Able to acquire agric assets-mechanisation	120	1	5	3.40	1.233
Access to health as improved	120	1	4	1.87	.673
Access to education has improved	120	1	3	1.77	.561
Performance of LCS is good	120	1	3	1.70	.588
Are interest rates on fair	120	1	4	2.03	.709
Loan payment period is reasonable	120	1	4	1.77	.670
Able to pay loan on time	120	1	4	1.93	.730
Inputs are timely	120	1	5	3.17	1.299
I recommend a colleague to join LCS	120	1	4	1.47	.673
GRZ supports credit schemes	120	1	4	1.90	.653
Poor roads/High transport cost	120	1	6	2.10	1.428
High interest rates	120	1	2	1.63	.484
Poor rainfall patterns	120	1	4	1.83	.690
High input cost	120	1	2	1.47	.501
Late input delivery	120	1.00	4.00	2.4000	.88308
Poor market facilitation	120	1.00	5.00	3.9000	1.07999
delayed loan repayment/default	120	1.00	5.00	2.1333	1.12222
Valid N (listwise)	120				

4.2.Descriptive Statistics Results

4.2.1. Socio-demographic characteristics of households of the respondents

The Zambian agricultural sector currently consists of about 1.4 million small and medium scale farming households; and around 800 commercial farmers. Small and medium scale farmers of which, majority of them still practice subsistence farming, are defined by CSO (Central Statistics Office) and the MAL (Ministry of Agriculture and Livestock) as farming and/or livestock rearing households each; owning and/or controlling and cultivating mainly 1 to 5 hectares (see Figure 2 below); and holding their land under customary title arrangements.

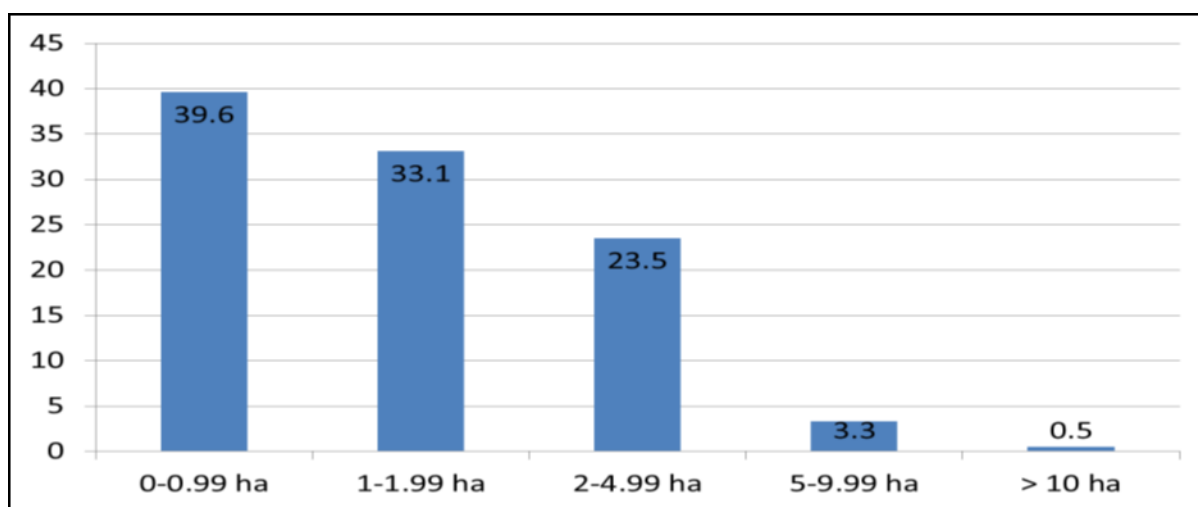
The Zambian smallholder farming sector is further subdivided into three categories, i.e. categories A, B and C smallholder farmers.

Category C farmers (small-medium scale or emergent farmers) cultivate between 5 to 20 hectares of land. Farming households cultivating less than 5 ha high-value cash crops and households raising 50 or more cattle, 20 or more pigs, 30 or more goats, and/or 50 or more chickens are included in this category even if they do not qualify basing on area under crops. Only 4% of smallholder farmers fall into this category. For these smallholder farmers, “farming as a business is slowly becoming reality”. This category of smallholders operates at various degrees of commercialization and is able to actually produce for the market. They are making use of modern inputs and some farm machinery.

Category B farmers cultivate between 2 and up to 5 hectares of land. Farming households rearing 10 or more cattle, 5 or more pigs, 15 or more goats, and/or 30 or more chickens are also included in this category. About 20-25% (200 000 -300,000) smallholder farmers currently belong to this category. This group is (potentially) able to produce for the market and is able to produce crops like maize, cotton, groundnuts and sunflower. To these smallholder farmers, “Farming can be a Business” if given the right incentives and some catalytic technical support.

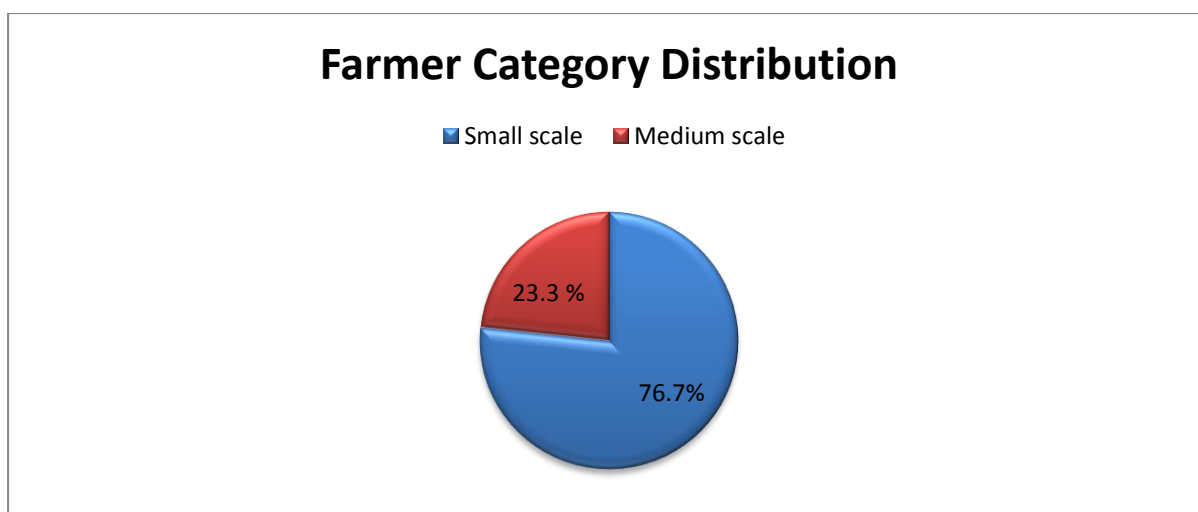
Category A farmers make up the remaining agricultural households with an area under crops of less than 2 hectares. Majority of the rural poor fall into this farming category and this represents about 70-75%, i.e. 700 000 to 750 000 of the Zambian farming households. For these farmers “Farming is mostly a Survival Strategy”, i.e. subsistence and basically producing mainly for their own consumption and are generally not able to produce crops for the market. Within this group there is some potential for commercialisation.

Figure 2: Categorisation of farmers by Hectare



Results show that 76.7% of the respondents were small scale farmers, while only 23.3% were medium scale who in fact are also part of the small scale categorization according to GRZ (Government of republic of Zambia) as seen above.

Figure 3: Farmer category distribution

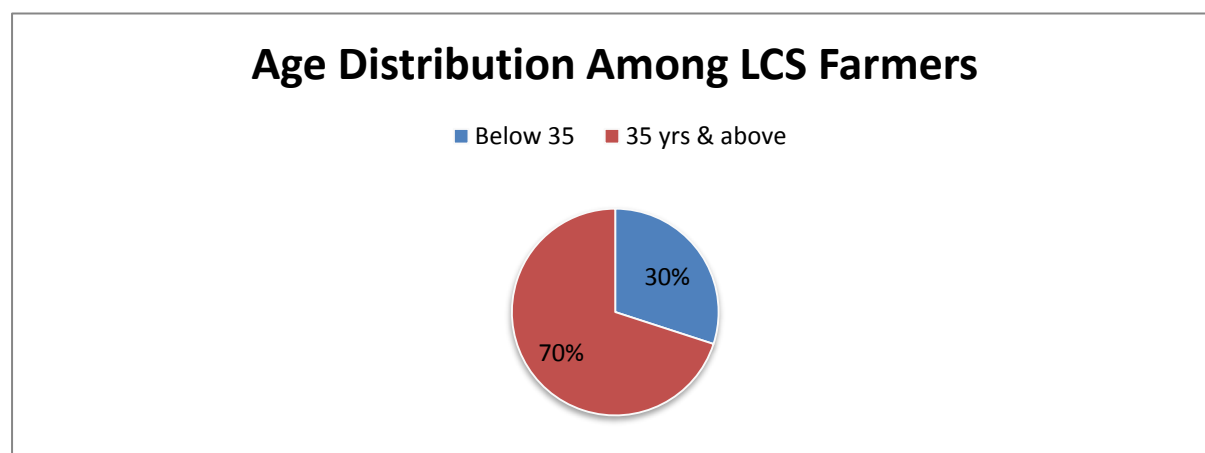


Lima Credit Scheme participants are poor but viable farmers who have collateral to present to the bank for them to qualify for funding. However, through a ZNFU initiative funded by a commercial bank, insured by the insurances companies and the agribusiness chamber, these farmers above 18,000 are able to access agriculture inputs.

4.2.1.1. Age Distribution of Respondents

Figure 2 below further shows that the majority (70%) of the respondents were aged 35 years and above. This means that generally there are few youths in agricultural production. The 2014 ZNFU annual report shows that only about 7% of its membership were youths (below 35 years)

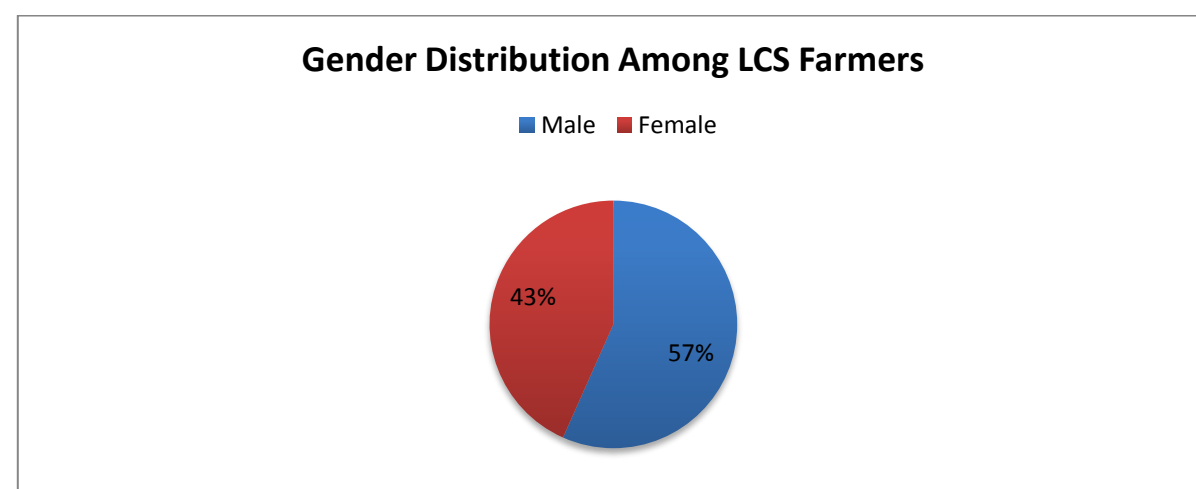
Figure 4: Age distribution



4.2.1.2. Gender Distribution

In terms of gender distribution, the majority 57% of the respondents were male while 43% were female as shown in figure 3 below. The 2014 ZNFU annual report shows that 35% of its membership in 2014 was female. During the focus group discussion in Kapiri Mposhi, respondents commended the LCS for bring on more women to participate. “It had never been this good before were women can access inputs on the loan based scheme in big numbers as their male counterparts” said Ms Chanda.

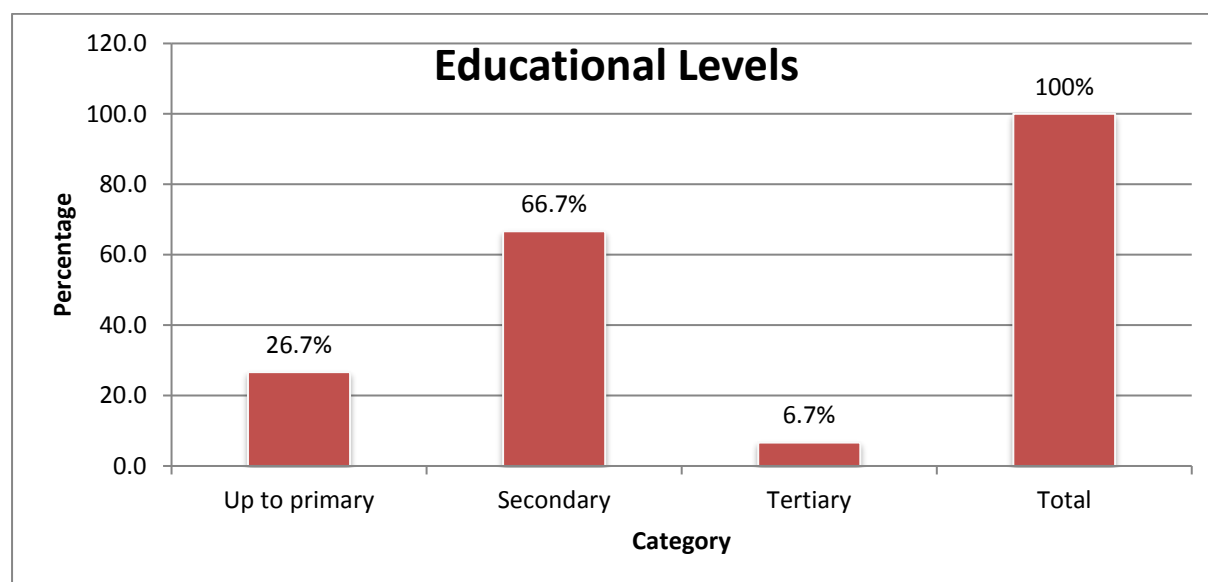
Figure 5: Gender distribution



4.2.1.3. Educational Levels

The majority of the respondents (66.7%) had reached the secondary level in terms of education followed by 26.7% who reached up to primary level while only 6.7% reached tertiary level of education as it can be seen in figure 4 below.

Figure 6: Educational levels



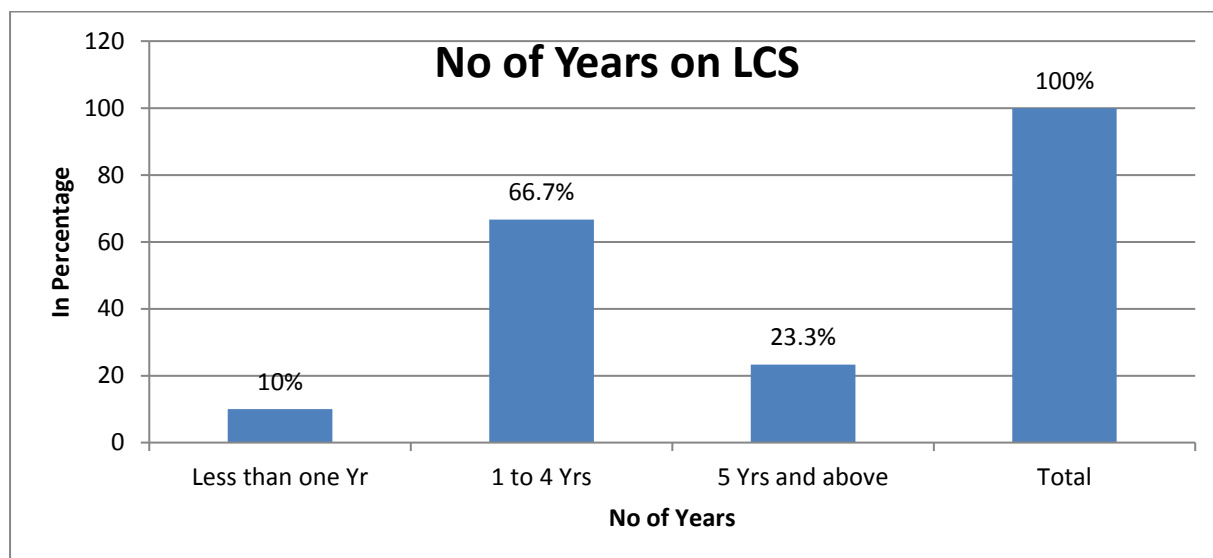
4.2.2. Benefits accrued to farmers/agro-businesses that have accessed the credit scheme.

4.2.2.1. Benefits from the farmer's perspective

4.2.2.1.1. Number of years on Lima Credit Scheme

Figure 5 below shows that the majority (66.7%) of respondents have been on LCS between one to four years, followed by 23.3% who have been on LCS for 5 years and above and only 10% less than a year. Figure 5 below further shows that 90% of the respondents have been participating on LCS for at least for one year and above. This trend is useful when it comes to meaningful analysis for the impact or better still benefits accrued to LCS beneficiaries. As noted in the literature review, LCS has been in existence for 6 years.

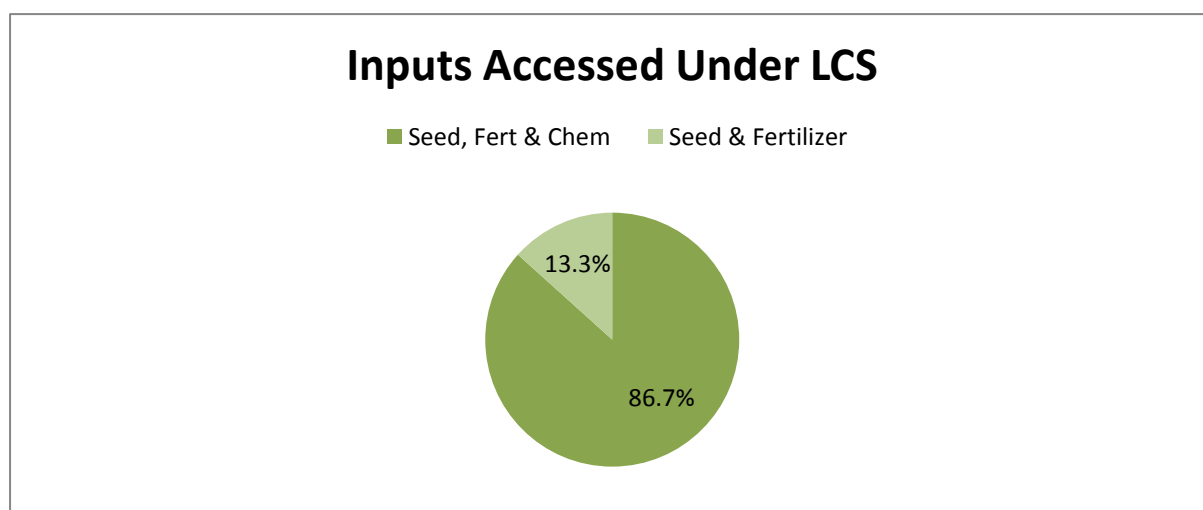
Figure 7: Number of years on Lima Credit Scheme



4.2.2.1.2. Input Access

With Lima Credit Scheme giving out farming inputs in form of fertilizer, seed and chemicals (weed killer), about 87% of the respondents said they accessed all the three categories of inputs, while only 13% limited themselves to seed and fertilizer. One would argue that being private sector driven, the scheme impacts the majority (87%) with access to seed, fertilizers and weed killers to farmers who would otherwise could not access them because of the farmers have no acceptable collateral that they could present to financial institutions.

Figure 6: Input Access

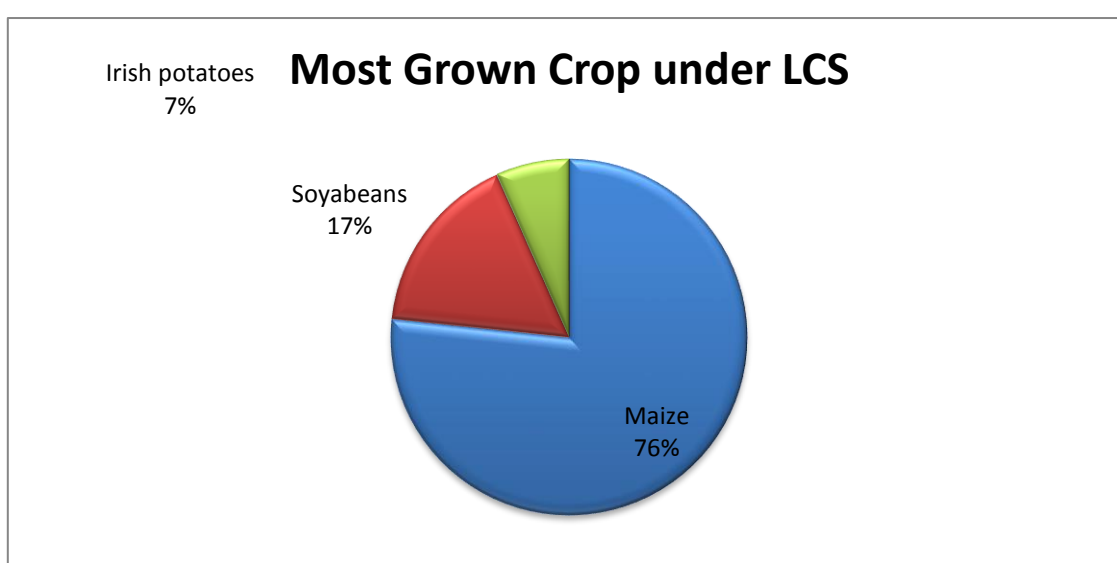


The government of the republic of Zambia runs the FISP. The aim among others include to assist farmers and the private sector firms to improve the use and provision of fertilizer and

related inputs. The programme aims at improving household food security, income, accessibility to agricultural inputs by small-scale farmers through subsidy and building capacity of the private sector to participate in the supply of agricultural input. However, Miller and Jones (2010) notes that “financing to agriculture has always been susceptible to political interests...in many ways instances, loans have been made for political motives, collections have been difficult due to the inability or reluctance to prosecute those unwilling to repay, and loans have been forgiven or granted moratoriums on repayment...”

4.2.2.1.3. Most Grown Crop Under Lima Credit Scheme

Figure 8: Most grown crop under LCS



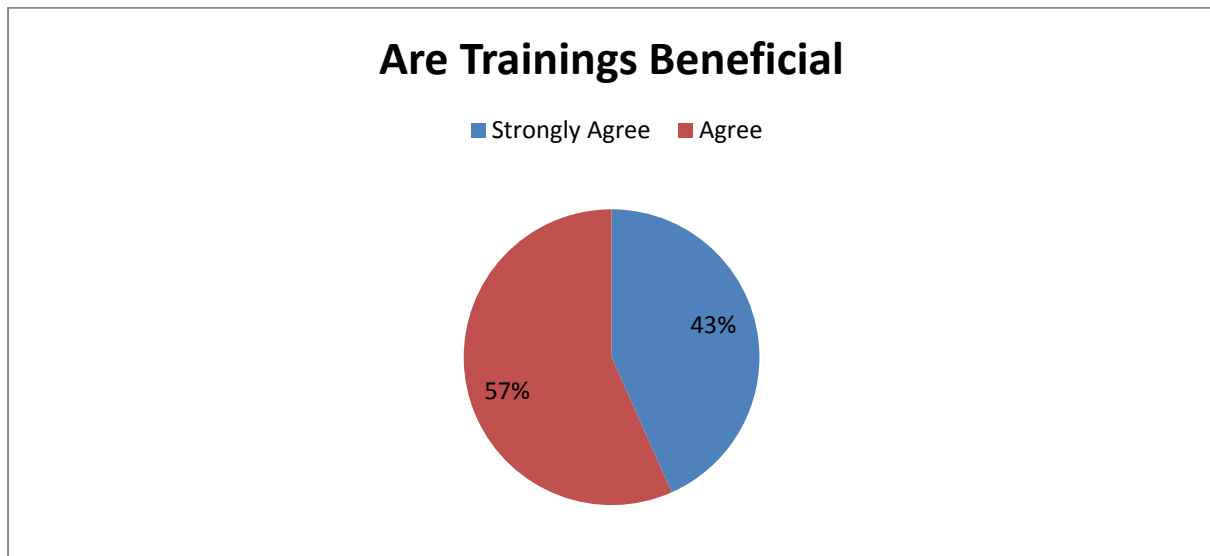
From mainly the 5 crops promoted under LCS namely Maize, Soya beans, Irish potatoes, Rice and Sugar Beans, Maize was the most (76%) grown followed by Soybeans (17%) and Irish potatoes (7%) as shown above in figure 7. The other crops such as rice are area specific such as in some western part of the country (Mongu district) which is not part of the selected districts.

4.2.2.1.4. How beneficial trainings are under LCS

Using a Likert scale of; **1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree** respondents were asked to rate the extent to which you agree or disagree on “are trainings under LCS beneficial”, the results were that the majority (57%) of respondent Agreed while 43% Strongly agreed meaning that all (100%) of the respondents (n=120) agreed that they benefited from the trainings under scheme. During the focused discussions held in Lundazi district of Zambia, revealed that respondents increased their crop husbandry practices. For

examples members of the focus group discussion demonstrated gaining knowledge on how to practice conservation farming. “If it wasn’t for the knowledge I gathered in conservation farming through Lima Credit Scheme trainings, my maize harvest during the 2014/2015 farming season would have been disastrous” said Mr. Zimba

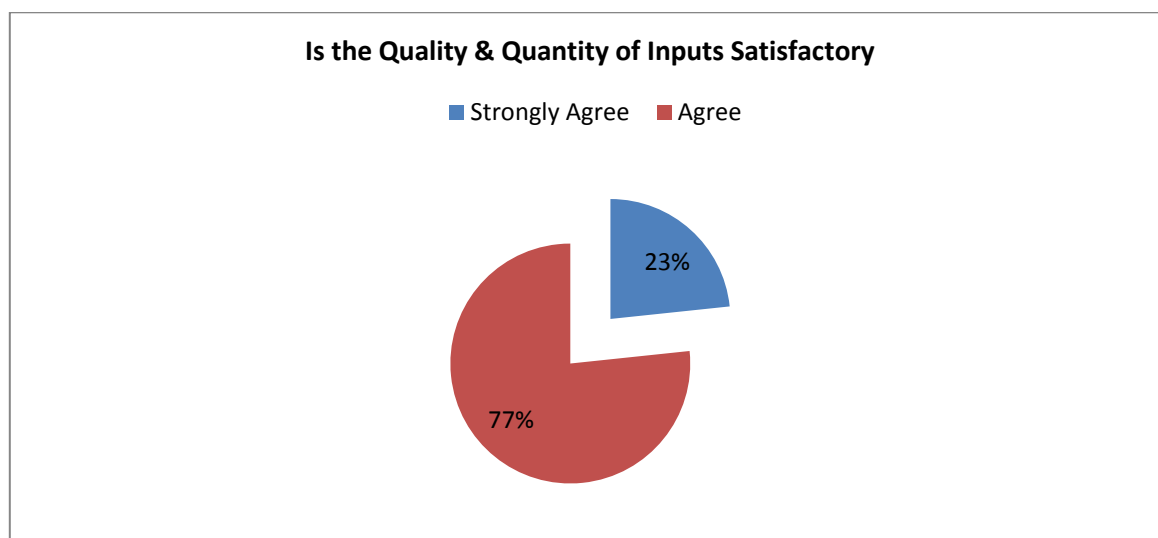
Figure 9: How beneficial trainings are under LCS



4.2.2.1.5. Is the quality and quantity of inputs satisfactory

Using the same Likert scale of 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree, the researcher wanted to found out whether or not the quality and quantity of the inputs under the LCS was satisfactory. The results in figure 9 below show that 77% of the respondents agreed that the quality and quantity of the inputs were satisfactory while 23% strongly agreed meaning that all the respondents agreed that quality and quantity of the inputs were satisfactory.

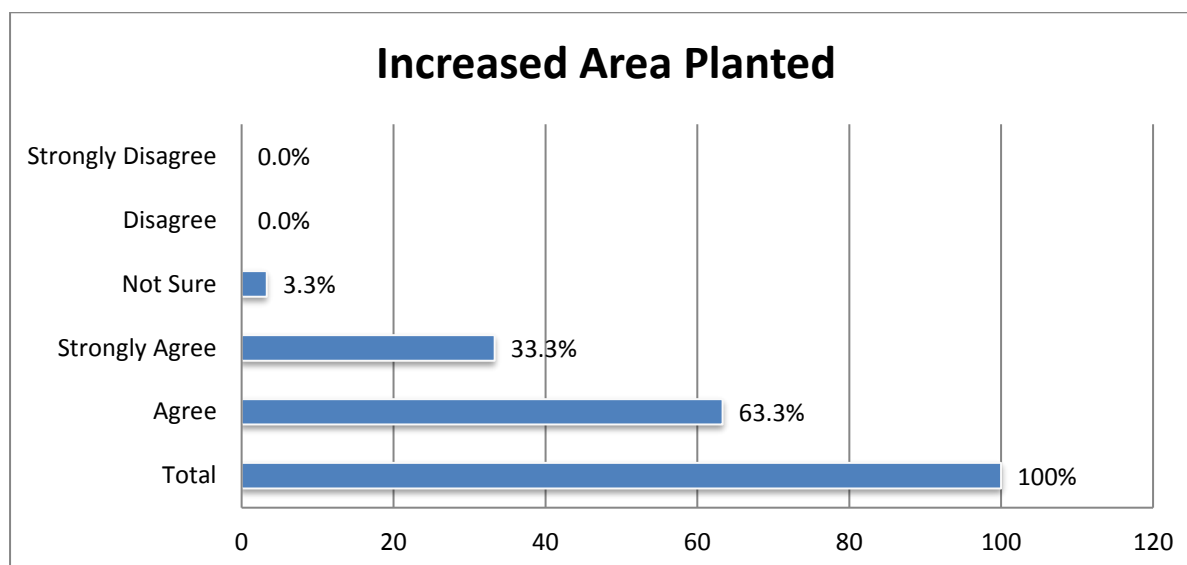
Figure 10: Is the quality & quantity of inputs satisfactory



4.2.2.1.6. Increase in area planted

The paper looked at another important variable in agricultural crop production of area planted. As in the other variables, respondents were asked to rate on a scale of 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree whether the LCS increased their crop area planted. The results in figure 10 show that out of the total respondents of 120, 63.3% agreed, 33.3% strongly agree while only 3.3% were not sure. Again the results simply show that well 96% of the respondents agreed that the scheme increased their respective area planted. This seems to be in line with the ZNFU annual results assessment report for 2014 that indicates that for example the average area planted for maize among general ZNFU members grew from 2.8Ha in 2013 to 3.5Ha in 2014.

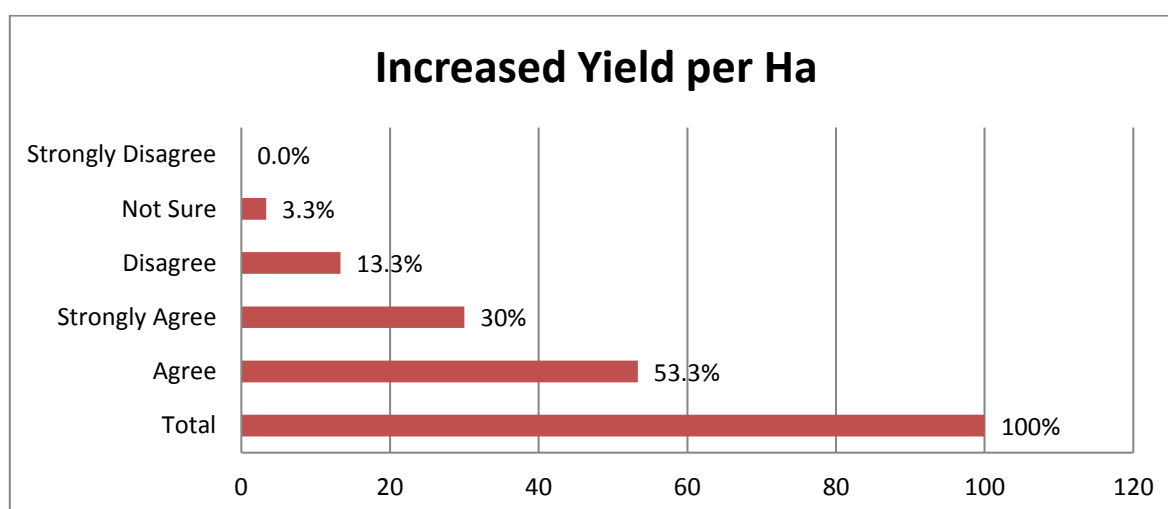
Figure 11: Increase in area planted



4.2.2.1.7. Increase in Yield per Hectare

The respondents were asked to rate whether or not they experienced increase in the yield per hectare of the respective crops planted using a scale of 1 to 5 from Strongly agree to Strongly disagree. Results in figure 11 below shows that more (53.3%) respondents agreed followed by 30% who strongly agreed while 13.3% disagreed and only 3.3% were not sure. This means that most (83%) of the respondents had their yield per hectare increased while only 17% disagreed or were not sure.

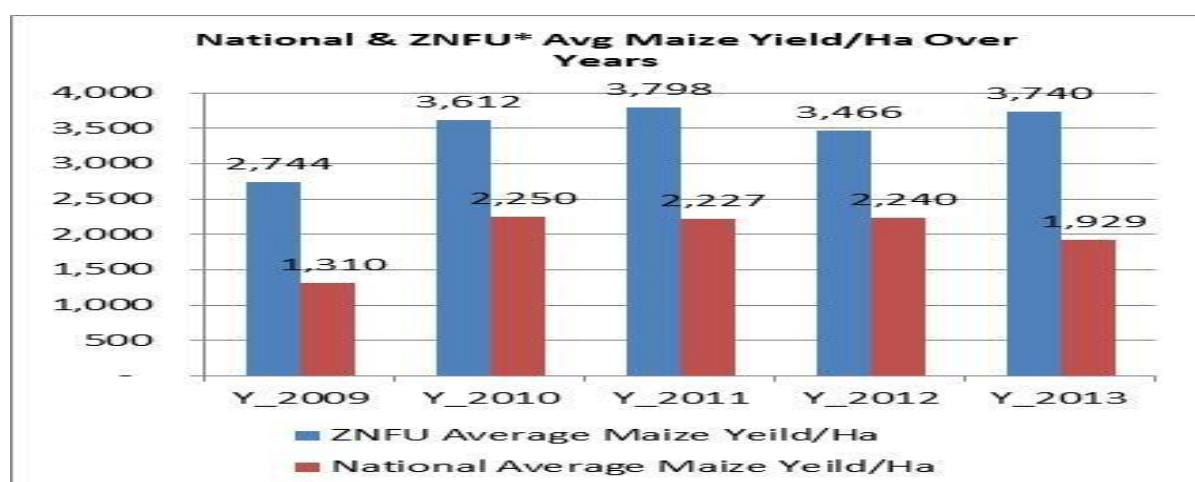
Figure 12: Increase in Yield Per Ha



This report compared its findings to other literature and figure 12 below shows that while the national average maize yields have been either static or reducing over years, the general ZNFU

average maize yields are well above the national average and have generally been on an increase, this is according to the ZNFU Core Support Phase one completion report. Note that LCS beneficiaries are a subset of the general ZNFU membership. Therefore the findings in this report of about 80% of agreeing that yields per hectare have increased seem to be in line with other findings as seen in figure 12 below.

Figure 13: National vs ZNFU Average Yield per Hectares



Source: ZNFU CSP I completion report 2014

4.2.2.1.8. Improved Access to Markets

The importance of market access in any commodity value chain cannot be over emphasized as not only does it guarantee income to the farmers but it is also the basis for financing by lenders. The Lima Credit Scheme too is involved in market linkage facilitation to ensure that farmers have competitive buyers of their produce which will guarantee income for farmers' consumption and loan repayment. The largest buyer for grain commodities in Zambia is the governments Food Reserve Agency although the scheme has linked farmers to private buyers such as AFGRI Zambia, NWK and milling companies.

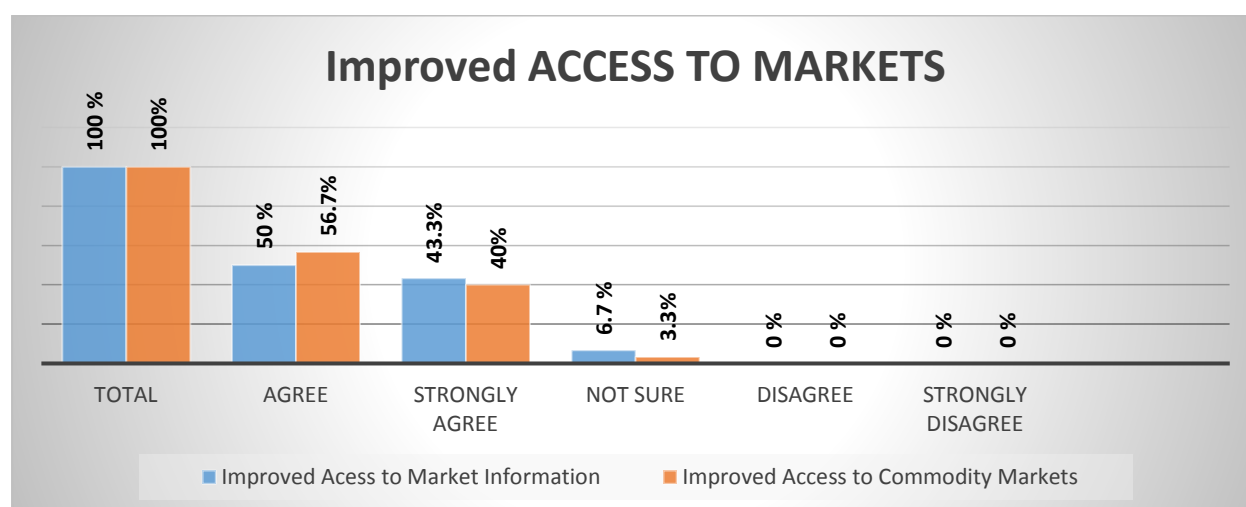
It is in this vein that the research sort to find out from respondents whether or not they have improved access to market information under the LCS using the scale of 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree. Figure 13 shows that half (50%) of the respondents agreed to have improved access to market information, 43.3% strongly agreed and only 6.7% of the respondents were not sure (n=120).

The ZNFU price information directory include; a USSD based platform for price information search on various commodity accessible on all the 3 mobile networks available in Zambia

called a ZNFU 4455, a weekly Agro Watch with prices on selected commodities, the ZNFU website and access to ZNFU district offices.

The same question was asked to respondents using a variable ‘improved access to commodity market’, 56.7% of respondents agreed have improved access to commodity markets, 40% strongly agreed and only 3.3% were not sure whether access to commodity markets had improved. It is clear that this is yet another benefit that has accrued to the farmers under the LCS.

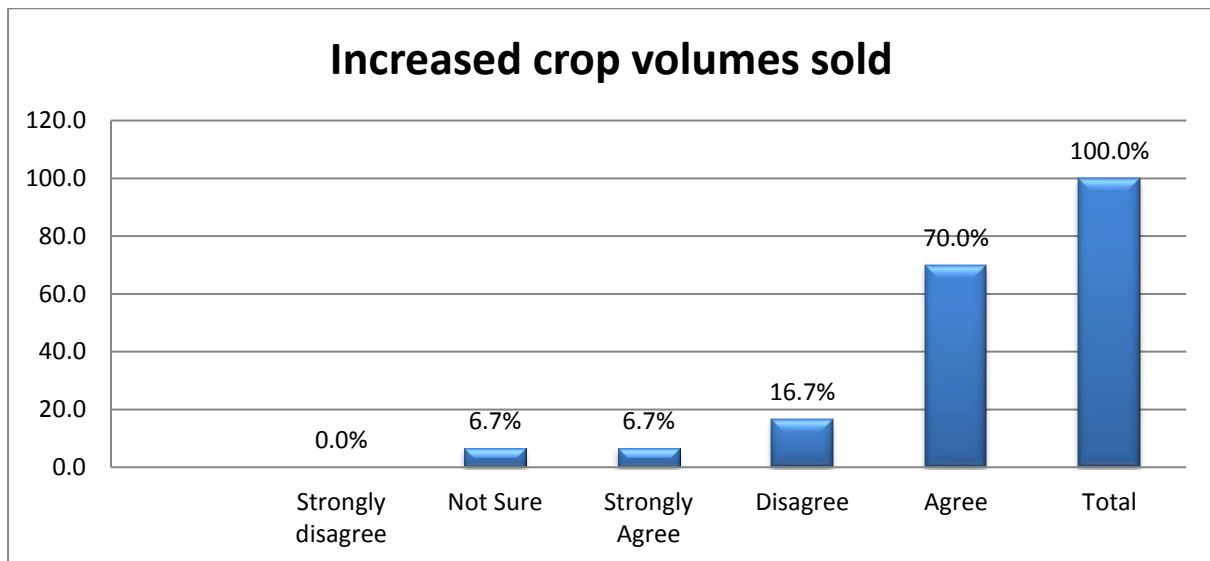
Figure 14: improved Access to Markets



4.2.2.1.9. Crop Volumes Sold

With increased access to market information and commodity markets, it follows that farmers should be able to increase volumes sold for their crop. It is not uncommon in most developing countries to hear instances of marketing challenges. The paper attempted to investigate the impact the LCS model has on sales volumes of various commodity grown by LCS beneficiaries. According to the findings, 70% of the respondents agreed that they experienced increased crop volumes sold, 16.7% disagreed, 6.7% strongly agreed while 6.7% were not sure. While most (76.7%) of the respondents agree to have experienced increased crop volumes sold, the paper appreciates the emerging group of respondents on this variable of 16.7% (about 20 respondents) not agreeing to the variable. However, further probing from the focus group discussions and key informants from the ZNFU attributed this response to the dry spell that was experienced by the country in the 2014/2015 season were some farmers were affected more than others.

Figure 15: Crop Volumes Sold



4.2.2.1.10. Farm-gate Income

Arguably one of the most important variable in this study is income. The respondents were asked to rate whether or not and to what extent they experienced increased farm-gate income resulting from sales of their produce using a scale of 1 to 5 from Strongly agree to Strongly disagree.

Figure 16: Farm-gate Income

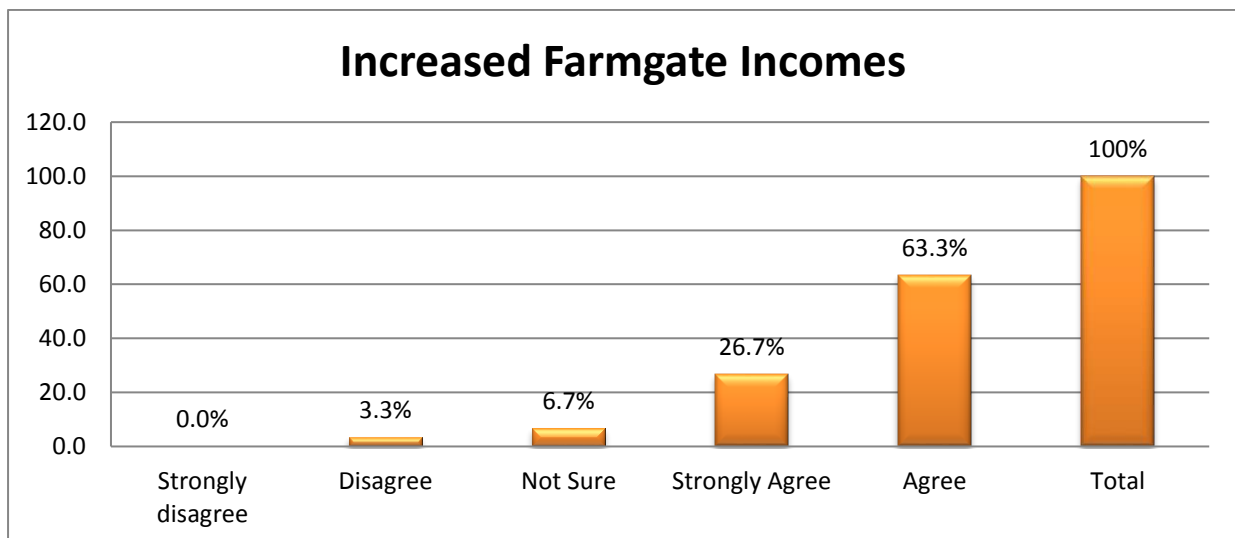
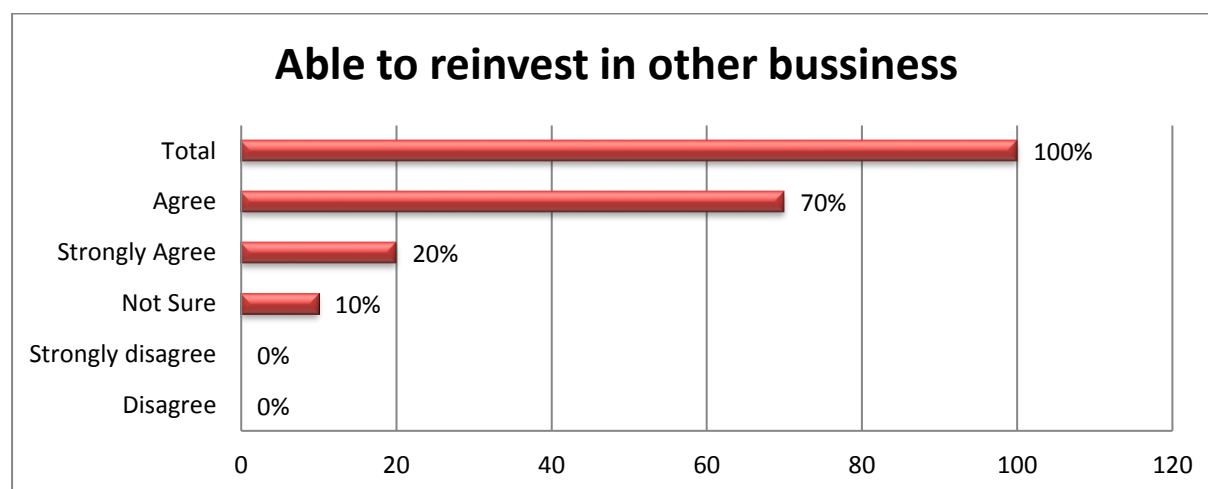


Figure 15 shows the results of the findings that 90% (108) of the respondents agreed that that they had their farm-gate income increased. The income has a bearing on the loan repayment, welfare of the farmer and re-investments.

4.2.2.1.11. Ability to re-invest in other business

Though questions (refer to annex III) of income and reinvestment were asked differently, the responses seem to be closely related. For example, as in income, figure 16 shows that 90% of the respondents agreed that the LCS had an impact on the ability of the farmers to reinvest in other business ventures while the rest 10% were not sure. Of the ‘agreed’ respondents, 20% strongly agreed that the scheme has impacted them through the ability to reinvest in other business.

Figure 17: Ability to re-invest in other business



4.2.2.1.12. Purchase of Agricultural Assets

Ownership of agricultural and other assets is a proxy indicator for household economic wellbeing. Past research work undertaken in Zambia has demonstrated a strong correlation between wealth and acquisition of assets in rural areas. Under LCS, it was expected that on average participating farmers would have a better economic status than non-participants as access to financial resources would lead to enhanced production and productivity. This would in turn result in greater agricultural product sales.

Production farm asset acquisition is yet another important impact on the farmer that the report found. Figure 17 below shows that 47% agreed that LCS enable them acquire production farm assets in form of Oxen and Ox drawn implements. 16.7% strongly agreed making it a total of 64% of the total respondents who under the ‘agree’ category. It can be seen that the share of those agreeing is reducing compared to other variables discussed earlier on. Thus figure 17 further shows that 23.3% of the respondents using the same Likert scale as in above disagreed having acquired agricultural assets, oxen and Ox drawn to be specific, 3.3% strongly disagreed

bringing the total percentage of respondents in the ‘disagreed’ category to 27% while 10% were not sure.

From the foregoing discussion, one area that requires improved impact from LCS is in procurement of production assets specifically Oxen and Ox-drawn implements.

Fig 18: Purchase of Agric Assets-Oxen & Ox-drawn

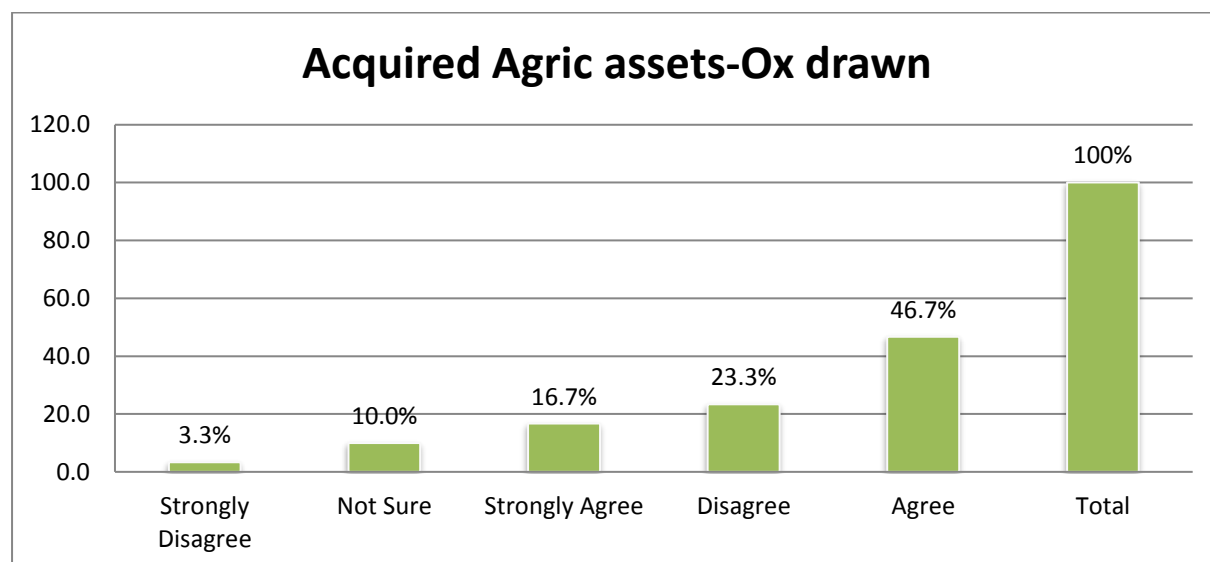
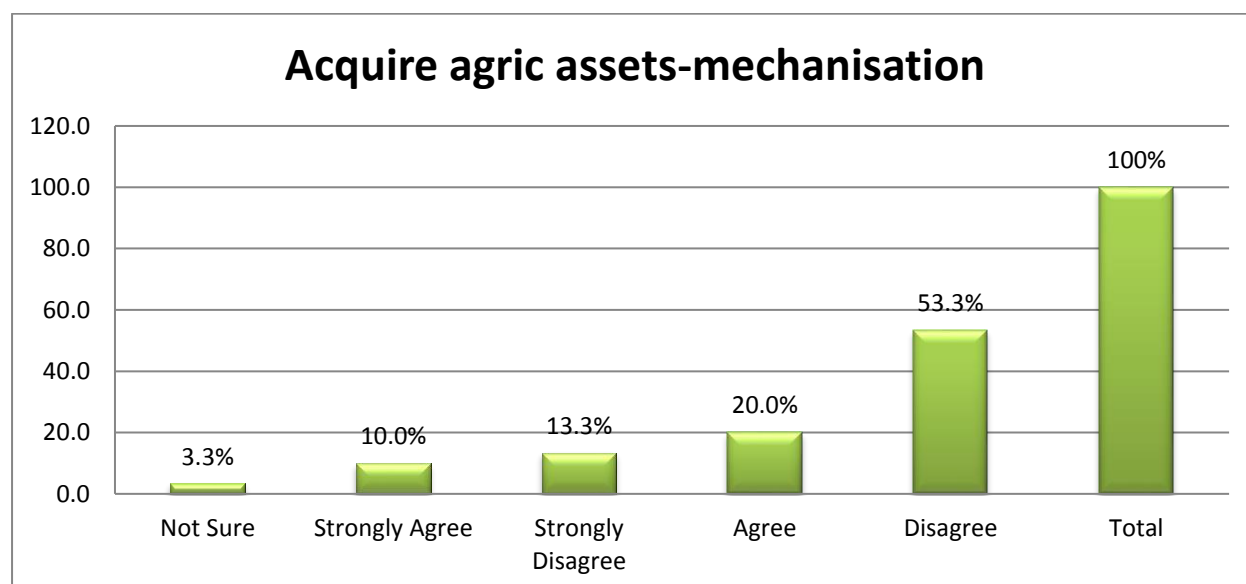


Figure 19: Purchase of Agric Assets-Mech



On the other hand the percentage of respondents who agreed to have acquired agricultural production assets by being LCS beneficiaries reduced significantly. 20% of the respondents agreed, 10% strongly agreed bringing the total of the agreed category to only 30% as compared

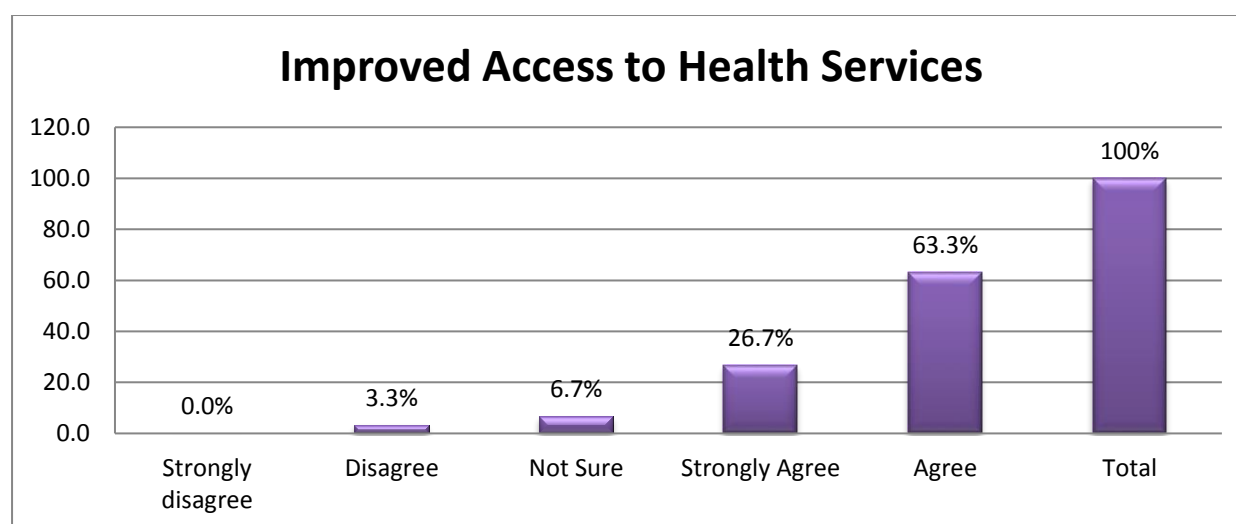
to the total disagree category of 66.6% of which 13.3% strongly disagreed and only 3.3% were not sure.

According to the socio impact assessment on small scale farmers conducted in 2014, 43% (compared to 64% in this research) of LCS participating farmers owned ox-drawn implements compared to 22% non-participants. The difference in the proportions of the two categories is significant. This suggests that LCS has had a positive impact on acquisition of ox-drawn implements by participating farmers, states the report.

4.2.2.1.13. Improved Access to Health Services

The research sort further to investigate whether or not the LCS had an impact in terms of improved access to health and education services by the scheme beneficiaries. The scale of 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree was used and beneficiaries rated accordingly. Figure 19 shows that 63.3% of the respondents agreed that they experienced improved access to health services as a result of being on LCS and 26.7% strongly agreed making the total of those in the 'Agree' category to 90%. Of the 120 respondents 6.7% were not sure and only 3.3% disagreed The findings seem to be consistence with increased volume of crops sold and income as discussed above which has an implication on the welfare of the beneficiaries.

Figure 20: Improved Access to Health Services

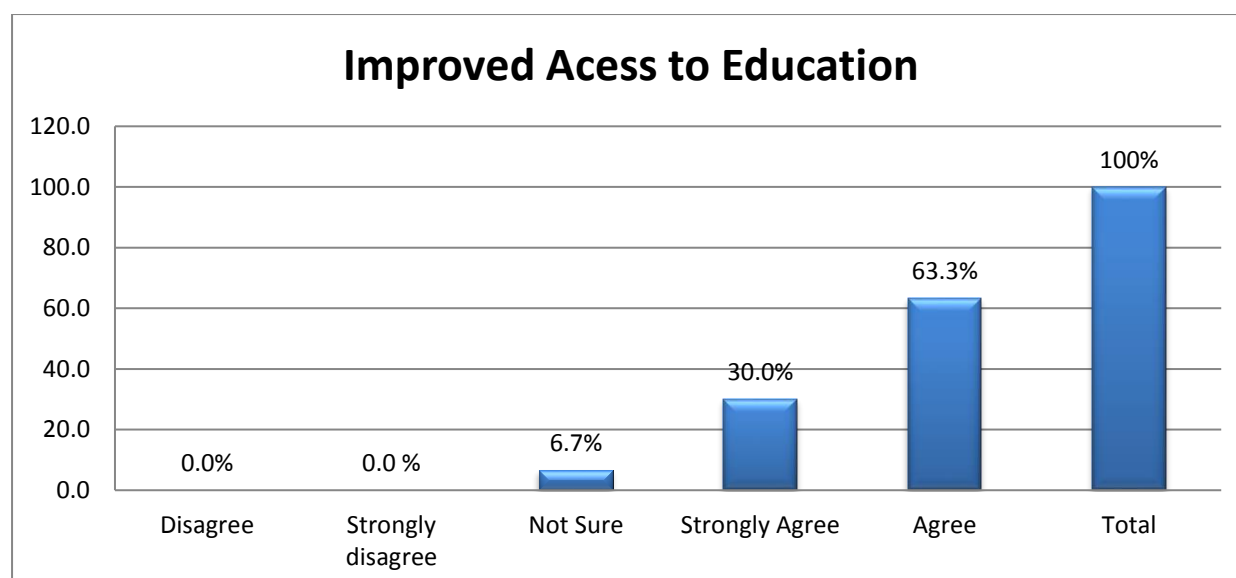


4.2.2.1.14. Improved Access to Education

Similarly, as in figure 19, figure 20 shows that most (93.3%) of the respondents agreed to having experienced improved access to education and their families. Of the 93.3%, 30%

strongly agreed. The rest (6.7%) of the respondents were not sure as to whether or not they and their families had experienced improved access to education.

Figure 21: Improved Access to Education



4.2.2.2. Benefits from the Bank's Perspective

Below are the benefits of accrued to Zambia National Commercial Bank from Lima Credit Scheme. ZANACO was one of the key informants on this study and contributed as a financial institution on the Lima Credit Scheme.

- The credit scheme enabled the bank to expand its financial inclusion objective
- The scheme ensures the bank is more relevant in communities especially in rural areas taking advantage of the largest branch network
- The scheme offered opportunities for customer base growth
- Importantly, the scheme is a source of revenue for the bank
- The Scheme has provided employment opportunities for bank staff managing it
- The Scheme adds to both the loan and deposit base of the bank

4.2.2.3. Benefits from the Zambia National Farmers' Union Perspective

Below are the benefits accrued to Zambia National Farmers' Union from Lima Credit Scheme. This is according to the key informant interview that was conducted during the data collection period by the research team. ZANACO too was one of the key informants on this study and contributed as a facilitator of the scheme.

- The Lima Credit Scheme boosted the ZNFU membership as only paid up members are allowed to participate on the scheme. In the 2014/2015 season there were 18,670 participants who were all paid up members.
- The ZNFU boosted its revenue collection through facilitation fees paid by the farmers and seed discounts paid to ZNFU by seed companies, that is, over K1,000,000.00 (US \$ 90,000) was realized in the 2013/2014 season.
- The scheme increased the footprint of ZNFU by many District Farmers Associations being formed with a view of participating on the LCS currently standing at 75.
- The scheme raised the bar of ZNFU in administering small scale loans through the Visa Cards and the Government of the Republic of Zambia even partnered with ZNFU to minister the E- Voucher to small scale farmers under FISP.

4.2.2.4. Benefits from the Inputs Supplier Perspective

One seed, fertilizer and chemical supplier were interviewed as key informants to their perspective as per design of this study. Below are some of the benefits accrued to selected input suppliers from Lima Credit Scheme.

- The credit scheme enabled the input supplier to make sales thereby increasing sales volumes and profits.
- The scheme helped the input suppliers to sell their trademarks and this increased customer base.
- The scheme helped the companies to maintain and in some cases create employment
- The scheme has provided already organized outreach platform

4.2.3. Major factors that may affect the performance of LCS of ZNFU

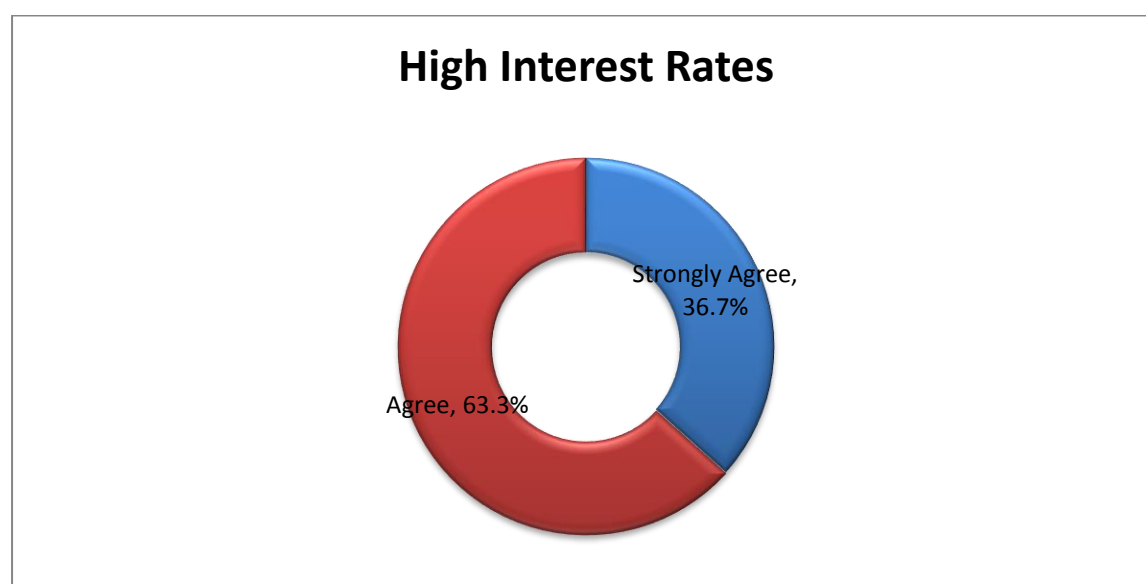
This section looked at threats/risks to the performance of the Lima Credit Scheme. In other words, respondents were asked to rate from the menu of possible threats using the scale of 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree, that may affect the performance of the LCS.

During the pretesting of the instruments that took place in Chongwe and Mazabuka districts of Zambia, key threats to the LCS were identified and included as part of the farmer questionnaire. The identified threats and risks in the order of priority were I) High interest rates, II) High Input costs, III) Poor rainfall patterns, IV) Delayed loan repayment/default, V) Poor road infrastructure/high transport cost, VI) Late delivery of inputs and VII) Poor market facilitation.

4.2.3.1. Risk of High Interest Rates

Conducive macro-economic environment is important when it comes to the smooth functioning of the LCS. Zambia is characterized with generally expensive agriculture finance due to among others high cost of money exacerbated by high interest rates currently as high as 35%. It is then not surprising that 100% (120) of the respondents rated high interest rates among the first priority risks of the LCS by putting it under category 'agree' of which 36.7% strongly agreed as shown in figure 21. Moreover, farmers complained that the bank is charging interest on the total loan (100%) when it should in fact charge on the 50% that comes from the bank as farmers make a down payment of 50%. The implication of high interest rates includes reduced beneficiaries of LCS, increased default rates among others.

Figure 22: Risk of High Interest Rates



4.2.3.2. High Cost of Inputs as a Risk

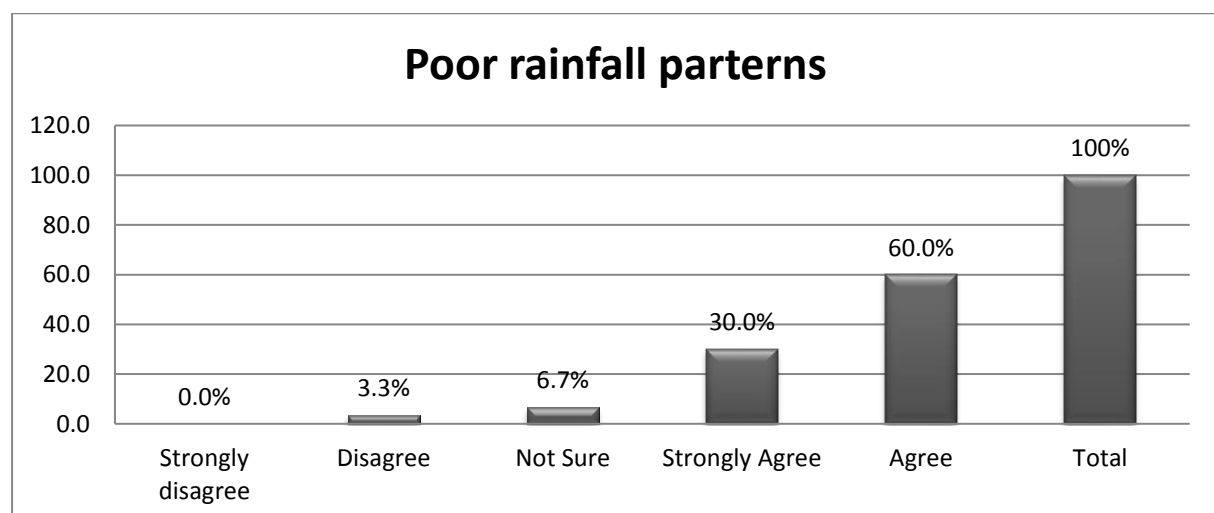
The Lima credit scheme impact assessment study conducted in 2014 revealed that in terms of the inputs being very affordable, there was some nominal difference in the proportion of respondents between the LCS participants and the non-participants where the former was higher at 31% compared to 22% with regards to the later. This means that any further increase on the cost of inputs which is likely to be the case will disincentify participation of farmers on LCS. Results shows 100% of the respondents agreed that this is a risk with 53% strongly agreeing. Again the implication once this holds firmly, the scheme will no longer be attractive hence the potential of winding up.

4.2.3.3. Risk of Poor Rainfall Patterns

This risk is ever increasing as the rainfall patterns are increasingly poor, the country for example experienced some dry spell at the beginning of the 2014/2015 farming season which affected the crop yield. This risk is real especially that Zambia's irrigation potential has not fully been exploited.

It is therefore not surprising that a total of 90% of the respondents agreed that poor rainfall patterns poses a serious risk to the LCS. It is worth noting that all loans under LCS are covered by insurance, however farmers expressed concern on food and net income security as these were not covered by the insurance company. "We appreciate the initiative to cover our loans under Lima Credit Scheme as a risk mitigation measure...we however feel that this is only beneficial to the bank but for us we still remain with our hunger and without income each time we experience a dry spell, noted a Mr. Daka of Lundazi during a FGD"

Figure 23: Poor rainfall Patterns



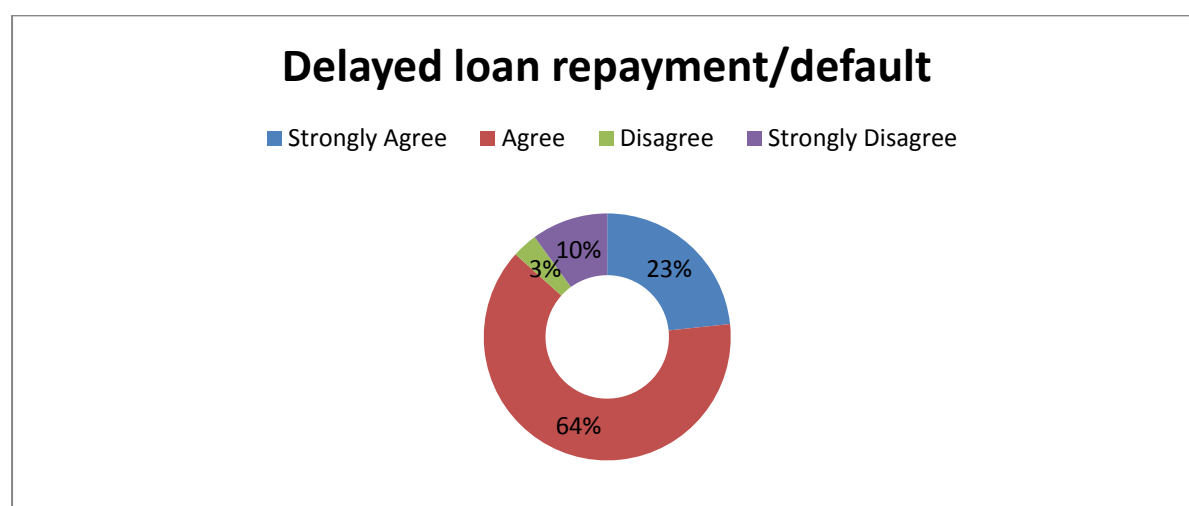
The mean for the variable *poor rainfall* was 1.8 with a standard deviation of 0.690. This means that on a likert scale of 1 to 5 as follows; 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree, the average number of respondents agreed that poor rainfall patterns poses a serious risk to the LCS.

4.2.3.4. Risks associated with Delayed Loan Repayments/Defaulting

One major factor identified that affected the performance of LCS of ZNFU was delayed loan Repayments/defaulting. As discussed above, if risks of high interest rates, poor rainfall patterns, increased cost of input among others are to hold, the end results may be delayed loan repayments and defaulting. Using the same Likert scale, 64% of the respondents agreed that

delayed loan repayments/defaulting may adversely affect the performance of LCS while 23% strongly agreed bring the total under the ‘agree’ category to 87%. On the other hand 3% of the respondents disagreed and 10% strongly disagreed bringing the total responses of members of disagreed to 13%. In other words 13% of the respondents do not see delayed loan repayments and defaulting as a major factor that may affect the performance of the LCS.

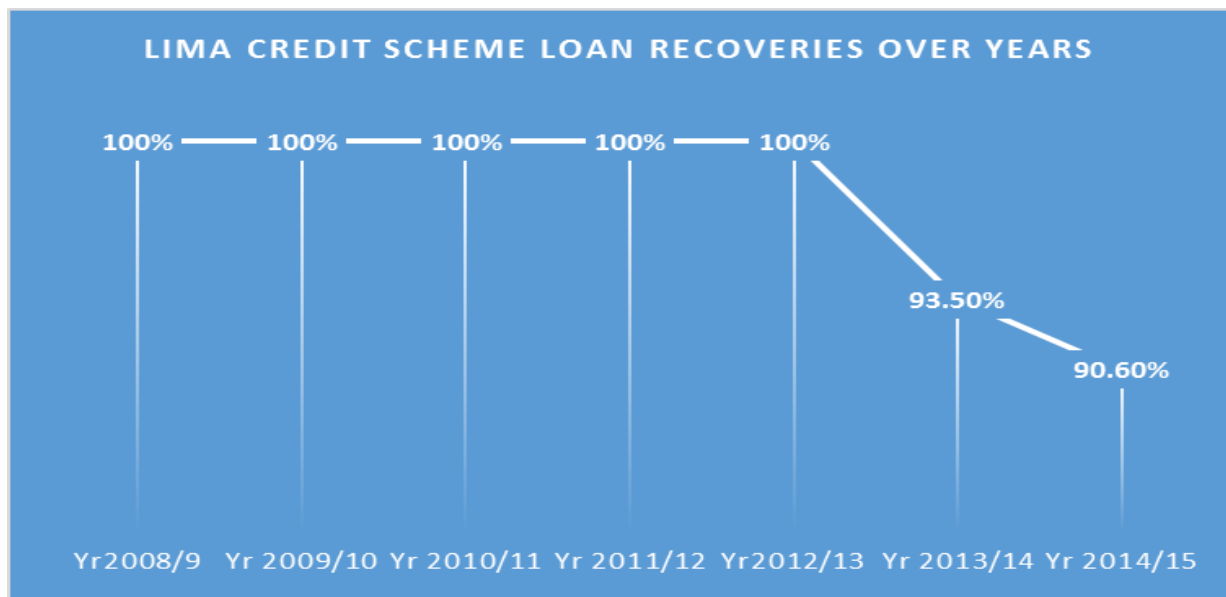
Figure 24: Delayed loan Repayments/defaulting



Information gathered during the key informant interview with the ZNFU staff from the head office on the performance of the LCS in as far as recoveries are concerned over years indicates an excellent year on year 100% recoveries for 5 years as seen in figure 24. However, concerns are now growing with 93.5% recoveries in 2013/2014 season and 90.6% recoveries in 2014/2015 season sending a signal that seems to be the beginning of defaulting as the repayment dates are long overdue. ZNFU staff from the headquarters were however quick to point that collection on unpaid loans are on going and will ensure that 100% recovery is achieved as in the past 5 seasons.

The ZNFU positions seems to suggest and in line with the findings from the farmers that indeed one major factor that affects the performance of LCS of ZNFU was delayed loan Repayments/defaulting.

Figure 25: Lima Credit Scheme Loan Recoveries over Years

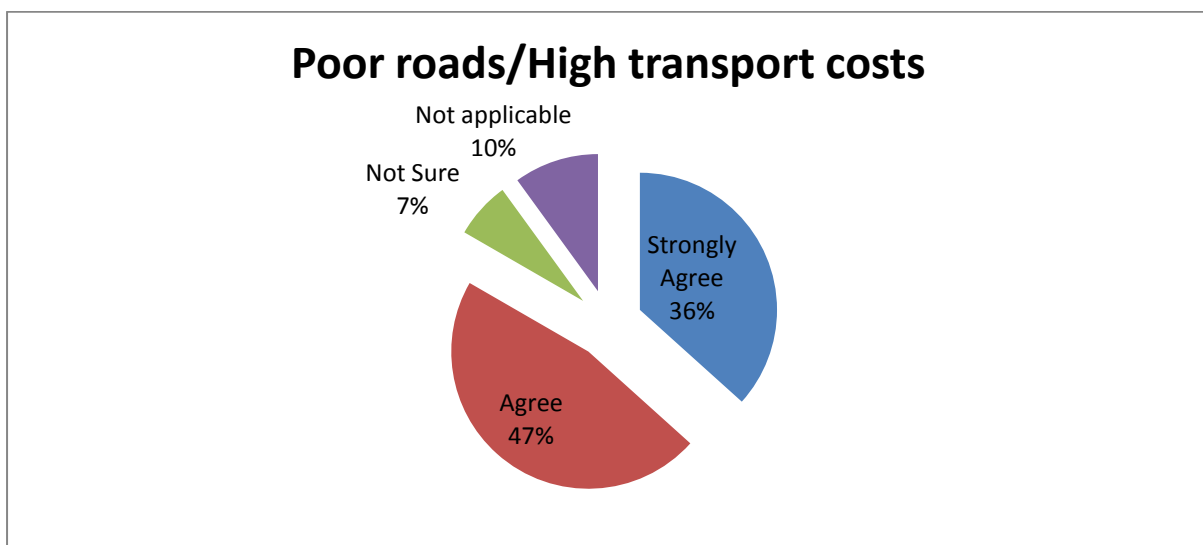


Source: ZNFU Key Informants

4.2.3.5. Risk Associated with poor road infrastructure/high cost of transport

Figure 25 below shows that poor road infrastructure/ high transportation costs if left unchecked remains factor that may cause the LCS not perform as desired. Thus 47% of the respondents agreed, 36% strongly agreed bringing the total to 83% while 7% were not sure. 10% were reprinted those respondents who did not give any response.

Figure 26: Continued Poor Roads/High Transport Costs

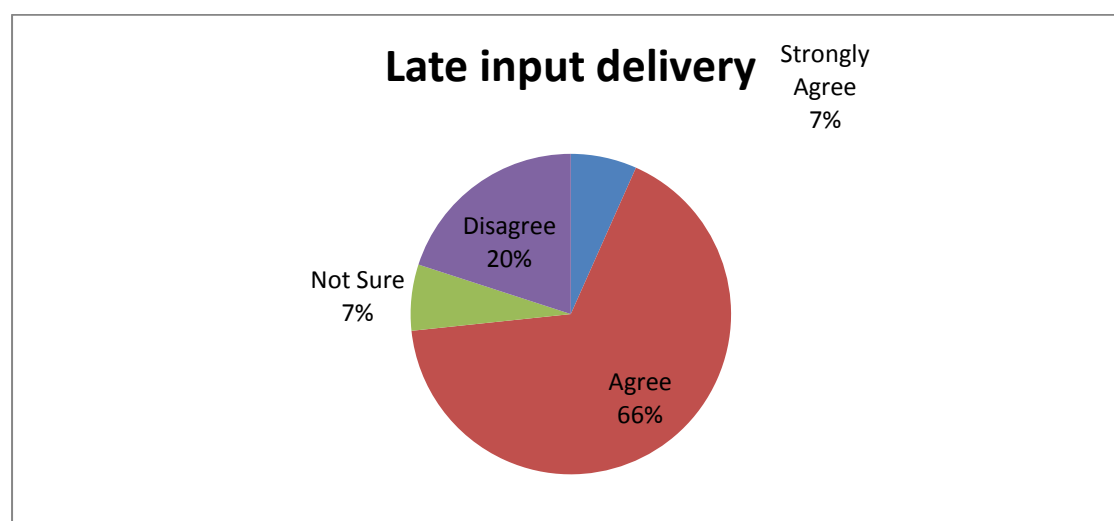


4.2.3.6. Risks associated with late input delivery

Based on literature review and other studies/documentation done on Lima credit Scheme, one positive result had been early distribution of inputs when compared to the government's FISP programme. The ZNFU's Lima credit scheme social economic impact assessment on small scale farmers conducted in 2014 indicated that an aggregation of 72% of LCS participants cited that inputs were delivered early (compared to 54% non-participating respondents). Conversely, only 7% of LCS participants felt that inputs were delivered late compared to 22% of their counterparts.

However, in some selected places over a period of time, the scheme experienced delayed input delivery. This means that late input delivery negatively affected bearing production process of crops, in other words, late delivery of inputs resulted in jeopardizing the planting/application process which has a bearing on yields and incomes of farmers. Results suggest that it is in this line that 66% of the respondents agreed and 7% strongly agreed that late input delivery will affect the performance of the Lima Credit Scheme. On the other hand, 20% disagreed while 7% were not sure. The 20% who disagreed may be those farmers that do not get chemicals for killing weeds from the Lima credit scheme going by what came out from the FGDs.

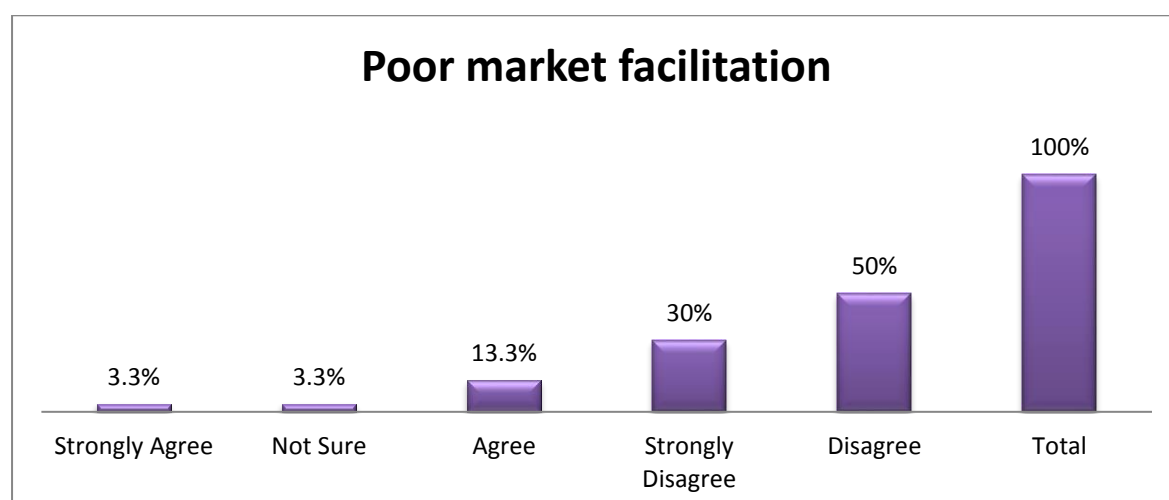
Figure 27: Late Input delivery



4.2.3.7. Poor market facilitation

Last but not the least identified risk associated with Poor market facilitation. It is evident from figure 27 below that it was the least rated risk by the respondents. An aggregation of 80% of the respondents disagreed that poor market facilitation may affect the performance of the LCS. On the other hand, only 13.3% agreed, 3.3% strongly agreed while 3.3% were not sure.

Figure 28: Poor market facilitation



4.2.4. Effects of governance and regulatory framework variables on the performance of Lima Credit Scheme.

This section looks at how governance and regulatory framework variables affects the performance of Lima Credit Scheme.

The government's input subsidies called farmer input support programme threatens growth of the scheme. This is a programme home to about 900000 small scale farmers who tend to be on FISP without any graduation plans but continue receiving subsidies inputs creating a dependency syndrome on beneficiaries. Further, this is the programme that has not been insulated from political interference making it inefficient.

The current Sixth National Development Plan (SNDP) covering 2011-2015 is linked to the Vision 2030 goal for Zambia to become "a prosperous middle-income nation by 2030". The SNDP names Agriculture, Livestock and Fisheries among the priority growth sectors of the economy (Revised Sixth National Development Plan, 2011). Agricultural commercialization is a key objective to be accomplished through the promotion of a competitive and efficient public and private sector driven marketing system for both inputs and outputs.

The National Agricultural Policy (NAP) covering the years 2004-2015 was recently revised to focus on building a competitive, valued added export led agricultural sector that ensures food and nutrition security for the country. The revised NAP aims at achieving "An efficient, dynamic, competitive, sustainable and value-added export led agricultural sector that ensures

income, food and nutrition security for vulnerable rural households while ensuring the competitiveness of the agriculture industry” (NAP).

According to the USAID Zambia Food Security Policy Assessment (2014) the Zambian CAADP Compact, signed in 2011, is intended to strengthen, support and facilitate effective implementation of the NAP and the Vision 2030. Subsequently, the current Government of Zambia (elected in October 2011) launched the preparation of the National Agricultural Investment Plan (NAIP) in July 2012 and released a draft copy in March, 2013. The NAIP is a 5-year road map for agriculture and rural development that identifies priority areas for investment and estimates the financing needs to be provided by the Government and its development partners. It is anchored to, and aligned with, the national vision of becoming a middle-income country by 2030 (USAID Zambia Food Security Policy Assessment 2014).

The CAADP and NAIP processes focus on the need to realign policy and increase budget allocations to production, productivity and commercialization initiatives and redirecting funding away from low return subsidy programs. As the NAIP succinctly points out “The effectiveness of these investments will ultimately depend on improving the predictability of government action in agricultural markets, particularly in terms of FRA’s buying and selling practices and regulations over cross border trade”.

However, government has continued its active participation in the crop marketing through Food reserve Agency in most cases crowding out private sector. This has effects when it comes to repayment of the Lima Credit Scheme loan as FRA delays paying farmers their money. FRA remains the major buyer of maize from smallholder farmers Zambia. This leads to late settlement of existing facilities between the farmer and the bank. In addition, perpetual delays by FRA to pay farmers for their produce makes farmers susceptible to briefcase buyers who offer cash but at lower rates rendering the farmer to have not enough cash to settle the loan.

Ever increasing cost of borrowed money: The increasing cost of borrowing necessitated by government’s increase in policy rate has seen interest rates by commercial banks going high thereby making already expensive money even more expensive in Zambia. For example, in the past two years alone, interest rates have doubled which will make it very difficult for average farmers to afford as discussed above.

Increase in other macro-economic fundamentals such as inflation and devaluation of the Kwacha has led to increase in the already high cost of production. This reduces the profit margins for the farmer and increases the possibility of the farmer to default of their loans.

It can be argued that government has not done enough in promoting irrigation farming among small holder farmers which is very important especially in mitigating the effects of dry spell/droughts in Zambia.

It is clear by now that notwithstanding the challenges and risks facing the LCS, the study hypothesis that the LCS intervention has had no favourable impact on beneficiary farmers and Agro-Businesses in Zambia has been proved to be null. To the contrary, the findings indicate that LCS had favourable impact on beneficiary farmers and Agro-Businesses in Zambia.

4.3.Factor Analysis

In addition to descriptive statistics analysis, factor analysis was employed to explore the underlying relationships among the variables of interest (Table 2). While, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of 0.6 minimum required to use factor analysis was not met (0.235), an investigation of the resulting correlation matrix reveals a number of correlation coefficients equal to and greater than 0.3 as shown in table 2. The Bartlett's test of sphericity is also significant ($p=0.00$). We therefore went ahead to employ factor analysis. Based on the Kaizer criterion to extract components with eigenvalues of 1 and above, 9 initial components accounting for 79.49% of the total variance were extracted. However, an examination of the screeplot suggested that 3 components were more appropriate. The 3 components were subjected to a varimax rotation, based on which the following 3 components were extracted (accounting for 44.15% of the total variance explained). Varimax rotation was used because it is known to minimise the number of variables that have high loadings on each factor (Tabachnick & Fidell in Jere et al 2014).

Table 29: Rotated Component Matrix Results (Without Variable Loadings <.3)

Rotated Component Matrix^a			
	Component		
	1	2	3
Inputs are timely	.745		
Performance of LCS is good	.684		
Access to market information	.665		
Late input delivery	-.636		
Poor roads/High transport cost	-.622		
I recommend a colleague to join LCS	.549		
Increase in income	.537		
Increase in sold volumes	.523		
Increase in area planted	.495		
Are trainings beneficial			
Access to health as improved		.726	
Able to reinvest in other business		.694	
Poor rainfall patterns		.689	
Increase in yield per Ha		.682	
Able to pay loan on time		.677	
Able to acquire agric Assets-Ox drawn		.634	
Access commodity markets		.550	
Access to education has improved		.508	
Loan payment period is reasonable		.504	
Poor market facilitation		-.439	
Loan insurance cover is one good benefit		.323	
Are interest rates on fair			-.668
GRZ supports credit schemes			-.665
High input cost			.531
Is Qty & Qly of inputs satisfactory			.528
Able to acquire agric assets-mechanisation			.458
High interest rates			.318
% of variance explained	17.201	17.185	9.766
Cumulative %	17.201	34.386	44.152

Component 1 has a variance of 17.20%. It comprises of 7 variables loaded in this component anchored by the variable *Inputs are timely*. The other variables include *performance of LCS is good*, *access to market information*, *I recommend a colleague to join LCS*, *increase in income*, *increase in volumes sold and increase in area planted*. This component is labelled *access to production inputs based benefits* and it suggests that a significant proportion of respondents felt that access to farming inputs was very important, specifically findings suggests that one important benefit for being a Lima credit scheme beneficiary was timely delivery of inputs (*inputs are timely*). In addition, findings suggest that with timely access to inputs, coupled with *access to market information*, it has helped farmers to *increase area planted, volumes sold and incomes*. It is not surprising therefore to see findings pointing to *I recommend a colleague to join LCS*.

Component 2 is accounting for 17.19% of the variance, while this component is anchored by the variable *access to health has improved*, there are 9 more variables loading on it that include; *able to reinvest in other business*, *increase in yield per Ha*, *able to pay loan on time*, *able to acquire agric Assets-Ox drawn*, *access commodity markets*, *access to education has improved*, *loan payment period is reasonable*; *loan insurance cover is one good benefit* and *poor rainfall patterns*. Labelled the *improved income based benefits*, this component suggests that one of the most important benefits among this proportion of respondents was improved access to health facilities (*access to health has improved*). Also findings under this component suggests that respondents had benefits in form of being able to reinvest in other businesses from the LCS proceeds (*able to reinvest in other business*), increase yield per hectare which seems to correspond with findings in component one that suggested that there was increase in the area planted. Further, respondents felt that they were *able to pay loans on time*, *able to acquire agriculture Assets-Ox drawn*, had *access to commodity markets* and improved access to education. However, respondents also acknowledged that poor rainfall patterns had a potential to negatively impact on farmers.

Accounting for 9.77% of the variance is component 3 anchored by the variable *high input cost* and 3 other variables loaded on it. The other 3 variables include *is quantity and quality of inputs satisfactory*, *able to acquire agric assets-mechanisation* and *high interest rates*. This component is labelled *factors that may affect performance of the scheme*. This proportion of respondents consider high input cost as very important among the factors that may affect the performance of the LCS, this is in addition to not being able to access good quantity and quality of inputs (*is quantity and quality of inputs satisfactory*), inability to acquire agriculture

production assets, specifically mechanisation (*able to acquire agric assets-mechanisation*) and the high cost of money in form of interest rates (*high interest rates*).

4.4.Conclusion

Thus, the study findings show that to a greater extent the scheme had positive impact that include; increased knowledge among Lima Credit scheme beneficiaries through trainings in various topics such as financial literacy and crop husbandry, increased economic wellbeing of the LCS beneficiaries, more households procuring oxen drawn agricultural implements, higher production levels of maize and soy-bean, greater participation in the market by SSFs, increased income, among others. Further, the study findings show that the LCS had a positive impact on the social wellbeing of the respondents through improved access to health and education services by their families. The factor analysis shows that the first factor *access to production inputs based benefits* suggests that in this component farmers accrued benefits from LCS and these benefits include access to market information, increase in area planted, increase in volumes sold and incomes. The second factor *improved income based benefits* suggests that respondents in this component acknowledges that as a result of increased incomes, there have recorded improved access to health, able to reinvest in other businesses, increase yield per hectare, able to pay loans on time, able to acquire agriculture Assets-Ox drawn, access to commodity markets and improved access to education. Meanwhile the third factor, factors *that may affect performance of the scheme* revealed that *respondents* consider high input cost, not able to access good quantity and quality of inputs, inability to acquire agriculture production assets, specifically mechanisation and high interest as factors that may affect the performance of the LCS,

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The study aimed at assessing the Impact of Agricultural Finance on small and medium Agribusiness in Zambia focusing on Lima Credit Scheme of the Zambia National Farmers Union. The specific objectives of the study were;

- To assess the benefits accrued to farmers/agro-businesses that have accessed the credit scheme.
- To establish which are the major specific factors that are affecting the performance of LCS of ZNFU.
- To investigate how governance and regulatory framework variables are impacting on the performance of LCS.
- To suggest recommendations that will enhance the performance of LCS in providing services to small scale farmers in Zambia.

In assessing the benefits accrued to farmers/agro-business that have accessed the credit scheme, findings indicate a number of positive benefits as presented below.

The scheme has positive impact on increased knowledge among Lima Credit scheme beneficiaries through trainings in various topics such as financial literacy and crop husbandry. The study shows that 100% of the respondents (57% agreed and 43% strongly agreed) agreed that trainings were beneficial.

Linked to the above is the impact on the economic wellbeing of the LCS beneficiaries. Critical among the positive impacts includes more households procuring oxen drawn agricultural implements, higher production levels of maize and soy-bean, greater participation in the market by SSFs, increased income, among others. For example, study findings in the report indicates that about 80% of the respondents agreed that yields per hectare had increased. These findings were also in line with literature review findings that indicated that the ZNFU members had in 2013 for example maize yield of 3740 kg per hectare compared to 1929kg per hectare of the GRZ FISP beneficiaries.

Further, the study findings show that the LCS had a positive impact on the social wellbeing of the respondents. That is, 63.3% of the respondents agreed that they experienced improved

access to health services as a result of being on LCS and 26.7% strongly agreed making the total of those in the 'Agree' category to 90%. In addition, the report shows that most (93.3%) of the respondents agreed to having experienced improved access to education by their families.

The LCS benefits and positive impacts began to accrue to the ZNFU as an institution, the bank, input supply companies and the insurance companies. For example, the study shows that over K1, 000,000.00 (US \$ 90,000) was realized in the 2013/2014 season by ZNFU in form of facilitating fees and discounts from inputs. Similarly, the bank indicated that LCS is one source of its income and input supply companies indicated that LCS was a source of additional income through sale of inputs.

The LCS has great potential as an alternative to the Farmer Input Support Programme (FISP) that has been implemented by government for nearly 15 years. There are several supporting arguments to this end. *First*, the Scheme has cultivated and promoted a culture of saving by Small Scale Farmers. Clearly, lack of saving by SSFs has been one of the greatest challenges in the past as the negative SSF attitude towards credit contributed to the collapse of previous credit schemes targeted at smallholder farmers such as Lima bank and those facilities previously offered by the Zambia Cooperative Federation (ZCF). Due to LCS, SSFs are able to deposit financial resources for the procurement of 50% of the cost of inputs, ahead of the next growing season. *Second*, the Scheme has consolidated the use of improved technology and farming practices by SSFs including, greater amounts of fertilizers as well as herbicides. Unique to the scheme is the insurance cover on the loan amount that mitigates defaults resulting from natural cause such as drought and floods.

Notwithstanding these benefits brought about by the Lima Credit Scheme, the study attempted to establish major specific factors that are affecting the performance of LCS of ZNFU, the findings include;

Limited coverage: with the envisaged expansion, LCS will only cover about 1.3% (20,000) of the total SSFs in Zambia estimated at 1,500,000. On the other hand, FISP (notwithstanding its serious challenges and distortions) has had a coverage of 75% of the total SSF farmer population in the country.

High interest rates: 100% of the respondents felt that interest rates were very high on LCS which may pose a challenge of sustainability and growth of the scheme. Moreover, farmer felt

that interest rate should only be charged on 50% of the loan as farmers put an upfront of 50% to the total loan and yet ZANACO still slaps the interest rate on the total loan.

Poor rainfall patterns : Ninety percent of the respondents agreed that poor rainfall patterns poses a serious risk to the LCS. It is worth noting that all loans under LCS are covered by insurance. However farmers expressed concerns on food and net income security ,as these were not covered by the insurance company.

Delayed loan Repayments/defaulting: One major factor identified that affected the performance of LCS of ZNFU was delayed loan Repayments/defaulting. 64% of the respondents agreed that delayed loan repayments/defaulting may adversely affect the performance of LCS while 23% strongly agreed bring the total under the ‘agree’category to 87%. The study shows that concerns are now growing with 93.5% recoveries in 2013/2014 season and 90.6% recoveries in 2014/2015 season sending a signal that seems to be the beginning of defaulting as the repayment dates are long overdue.

The factor analysis shows that the first factor *access to production inputs based benefits* suggests that in this component farmers accrued benefits from LCS and these benefits include access to market information, increase in area planted, increase in volumes sold and incomes. The second factor *improved income based benefits* suggests that respondents in this component acknowledges that as a result of increased incomes, there have recorded improved access to health, able to reinvest in other businesses, increase yield per hectare, able to pay loans on time, able to acquire agriculture Assets-Ox drawn, access to commodity markets and improved access to education. Meanwhile the third factor, *factors that may affect performance of the scheme* revelled that *respondents* consider high input cost, not able to access good quantity and quality of inputs, inability to acquire agriculture production assets, specifically mechanisation and high interest as factors that may affect the performance of the LCS,

The study further investigated how governance and regulatory framework variables were impacting on the performance of LCS.

5.2. Recommendations and implication to ZNFU

The scheme to continue capacity building of LCS beneficiaries through various trainings for increased knowledge that should enhance productivity and good financial management for a sustained LCS. The scheme should be innovative, simplify and intensify trainings in financial literacy and entrepreneurship skills.

Notwithstanding the asset gains by LCS beneficiaries, the scheme should restructure its mechanization drive to promote and enable beneficiary access appropriate and affordable mechanized assets beyond ox-drawn implements. Findings show that access to mechanized implements was low as only 30% of the respondents agreed.

All direct and indirect beneficiaries of Lima Credit Scheme to do more in guaranteeing the viability of the scheme for its sustainability. There is need to guarantee viability of Lima credit scheme for its sustainability, for example by ensuring that all direct and indirect beneficiaries of Lima contribute fairly to the cost of running the credit, that is input suppliers, banks and the insurance companies.

As much as the scheme is viewed to be a possible successor to GRZ's FISP, greater publicity of LCS to SSFs, financing houses and other stakeholders would significantly increase the total SSF coverage by the Scheme. This requires a proper, well-thought-through expansion plan, phased out in such a way that the expansion activities match with implementation capacity (including monitoring and evaluation at every critical stage).

Further as the scheme expands, The Union should introduce more stringent and relevant internal control measures to ensure prudent LCS financial management, for example by beefing up the internal audit and monitoring and evaluation unit.

Interest rates should be constantly under check and negotiated for between the Bank and ZNFU on behalf of farmers. One opportunity for lowering interest rates is for ZNFU to negotiate with the bank that interest should only be charged on the 50% of the total loan as this is the only money that comes from the bank as opposed to charging interest on the total loan that comprises 50% of own farmers' fund.

The Union to encourage the use of irrigation and conservation agriculture technologies to mitigate farmers' vulnerability on food and income security due to poor rainfall patterns. Further, it is recommended that insurance should also cover the crop that will benefit the farmer in terms of food and income security as opposed to covering only the loan.

In order to mitigate the delayed loan repayment or default, the study recommends that all participating farmers must agree by signing to release crop equivalent to the loan owed as loan recovery in an event that they delay in paying actual cash.

The study faced a number of challenges, firstly the study would have wanted to have a bigger sample size beyond the current 120, however, resources in form time and finances were limited. In addition, it was difficult to isolate income that can only be attributed to the LCS as farmers practiced what is known as fungibility of funds. In addition, the study was faced with selection bias of beneficiaries as it used purposive sampling method initially and did not have a control group and finally in some cases language barrier was a challenge. It must be noted and as discussed above, that all these challenges had mitigation measures.

Future studies could consider using larger samples, deploying an experimental design that would have a control group to enable the findings be comparable to non-beneficiaries of LCS and also employing a more rigorous statistical analysis.

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Annex I: Work Schedule

No	Task to be performed and by who	Duration in days	Period work to be done
1.	Preliminary visit to 8 selected districts in Zambia	4 days	February 2015
2.	Preparing a Research proposal by Researcher	60 days	1 st March to 31 st April 2015
3.	Questionnaire formulation by Researcher and continued literature review	5 days	10 th to 15 th June, 2015
4.	Pretesting both local and English version questionnaire by Researcher and Research Assistants	3 days	25 th to 27 th June, 2015
5.	Data collection by Researcher and Research Assistants	5 days	15 th August to 15 th October, 2015
6.	Data coding and organization	12 days	16 th to 30 th October, 2015
7.	Data processing, analysis and interpretation	15 days	1 st to 15 th November, 2015
8.	Preliminary report writing	15 days	16 th to 30 th November, 2015
9.	Editing of the final report by Supervisor	7 days	8 th to 14 th January, 2016
10.	Submission of the report to the Supervisor	1 days	15 th January, 2016
11.	Polishing up on feedback from Supervisor	10 days	

12.	Resubmission to Supervisor	18 days	
13.	Binding and Submission to the University for External examination		

Annex II: Budget for the proposed research

No	Task to be performed and by who	No of items	Cost per item (US\$)	Total cost (US\$)
1.	Preliminary visit to 8 districts of Zambia			
	a. Fuel	500 liters	1.00	500.00
	b. Note book	2	1.00	2.00
	c. Lunch provision	2	9.00	18.00
2.	Preparing a Research proposal by Researcher			
	a. Ream of paper	1	7.00	7.00
	b. Flash disc	1	18.00	18.00
	c. Pen	1 box	5.00	5.00
	d. Folders	5	1.50	7.50
3.	Questionnaire formulation by Researcher			
	a. Ream of paper	1	7.00	7.00
	b. Print/Photocopying costs	4	0.30	1.2

4.	<p>Pre-testing both local and English version</p> <p>questionnaire by Researcher and Research Assistants</p> <p>a. Photocopying</p> <p>b. Fuels</p> <p>c. Food provision for researchers</p>	<p>20</p> <p>50</p> <p>10(2*5days)</p>	<p>0.30</p> <p>1.80</p> <p>9.00</p>	<p>6.00</p> <p>90.00</p> <p>90.00</p>
5.	<p>Data collection by Researcher and Research Assistants</p> <p>a. Photocopying questionnaire</p> <p>b. Fuel</p> <p>c. Accommodation</p> <p>d. Food provision for researchers</p>	<p>120</p> <p>500</p> <p>8 (2*4 nights)</p> <p>4</p>	<p>0.30</p> <p>1.00</p> <p>36.00</p> <p>9.00</p>	<p>36.00</p> <p>500</p> <p>288.00</p> <p>36.00</p>
6.	<p>Data coding and organization</p> <p>a. Lunch snacks</p>			

		2	9.00	18.00
7.	Data processing, analysis and interpretation a. Contribution to research analyst b. Courier costs	1	55.00	55.00
8.	Preliminary report writing a. Ream of paper	1	7.0	7.0
9.	Editing of the final report by Supervisor a. Allowance for editing	1	100.00	100.00
10.	Submission of the report to the Supervisor a. Courier costs	1	55.00	55,00
11.	Polishing up on feedback from Supervisor	-	-	-
12.	Resubmission to Supervisor a. Courier costs	1	55.00	55.00
13.	Binding and Submission to the University for External examination a. Binding costs	4	32.00	128.00

				2029.70
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Annex III: Questionnaires

University of Cape Town
Faculty of Commerce
Masters in Development Finance

Dear Respondent,

I am a student at the University of Cape Town in South Africa. I am carrying out an academic research on the Impact of credit Finance on Small and Medium Agribusinesses in Zambia-The case of Zambia National Farmers Union's (ZNFU) Lima Credit Scheme. You have been selected randomly among the Lima Credit Scheme beneficiaries here in your area and I am asking for your assistance by completing this questionnaire. Note that participation is voluntary and you may choose not to participate at any point. Please answer truthfully and honestly. Be assured that the information you give will be treated with great confidentiality. For this reason, you are not supposed to write your name or give any other information that will display your identity on this questionnaire.

I sincerely thank you in anticipation.

Instructions:

Tick where appropriate and fill in where required

In 2008, the Zambia National Farmers' Union introduced Lima Credit Scheme to help farmers, particularly the small scale ones. The aim of the scheme was to help the farmers have access to finances to assist them with purchase of farming inputs.

Demographic questions

	Questions	Answer Options	Answer Coding	Reasons/Explanation if Necessary
1	Membership category	[1] Small scale [2] Medium scale		
2	Age	[1] Below 35 years [2] 35 years and above		
3	Sex	[1] Male [2] Female		
4	Educational level of beneficiary	[1] Up to Primary level [2] Secondary & above		
5	Marital status of the beneficiary-	(1) Married (2) Not married		
6	For how long have you been loaned by Lima credit scheme	[1] Less than a year [2] 1 to 4 years [3] 5 years & above		
7	What farming inputs do you get from LCS	[1] Seed [2] Fertilizer [3] Chemical [4] All of the above		
8	What crop do you grow most under LCS?	[1] Maize [2] Soya beans [3] Irish potatoes [4] Rice		

		[5] Sugar Beans		
	Benefits accrued to farmers that have accessed the credit scheme Using the following scale 1. Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree , rate the extent to which you agree or disagree with the following statements regarding benefits accrued from Lima Credit Scheme by marking the appropriate box			
	Questions	Answer Options	Answer Coding	Reasons/Explanation if Necessary
9	Trainings received under Lima are beneficial	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
10	Quantity and quality of inputs is very satisfactory	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
11	There has been an increase in Area planted for my crops	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
12	There has been an increase in Yield per hectare	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
13	I have access to Market information	[1] Strongly agree [2] Agree		

		[3] Not sure [4] Disagree [5] Strongly disagree		
14	I have Market Access for commodities grown	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
15	There has been an increase Volumes sold for the commodities grown	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
16	There has been an increase Income	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
17	I am able to re-invest in other businesses	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
18	Loan insurance cover is one unique benefit on Lima	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
19	Was able to acquire Agricultural assets such as Oxen and Ox drawn implements,	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		

20	Was able to access Agricultural mechanized assets such tractors, tractor attachments & others such as harm mill, irrigation systems, oil expellers etc.	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
21	Access to health has improved	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
22	Access to Education has improved	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
Major factors that may affect the performance of LCS of ZNFU				
23	The performance of LCS is good	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
24	In your opinion what factors affecting the performance of LCS (Rate the extent to which you agree or disagree for each of the options given to your right: 1.	[1] Poor roads/high transport cost		
		[2] High interest rates		
		[3] Poor weather conditions(dry spell/floods)		
		[4] High cost of inputs		

	Strongly agree 2. Agree 3. Not sure 4. Disagree 5. Strongly disagree)	[5] Late delivery of inputs		
		[6] Poor market facilitation		
		[7] delayed loan repayment/default by some farmers		
		[8] Others specify.....		
25	Interest rates on the credit offered by LCS are fair compared to interest rates obtaining on the market	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
26	The repayment period is reasonable	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
27	I have been able to repay the loan on time.	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		
28	If answer is 3, 4 or 5, please explain why?			
29	LCS provides the farming input in time	[1] Strongly agree [2] Agree [3] Not sure [4] Disagree [5] Strongly disagree		

Key Informant Interviews – Checklist-Agri Input Supplier

Dear Respondent,

I am a student at the University of Cape Town in South Africa. I am carrying out an academic research on the Impact of credit Finance on Small and Medium Agribusinesses in Zambia-The case of Zambia National Farmers Union's (ZNFU) Lima Credit Scheme. You have been selected to participate on research as an input supplier on LCS and I am asking for your time to respond to few questions. Note that participation is voluntary and you may choose not to participate at any point. Please answer truthfully and honestly. Be assured that the information you give will be treated with great confidentiality. For this reason, you are not supposed to write your name or give any other information that will display your identity on this questionnaire.

I sincerely thank you in anticipation.

Benefits accrued to the Agro input supplier through its association with LCS.

What role has your organization played on the Lima Credit Scheme programme so far?

What benefits from LCS have accrued to your organization so far? Please explain & where possible quantify.

Major specific internal factors affecting the performance of LCS.

What major internal factors do you see affecting the LCS?

Governance and regulatory framework variables are impacting on the performance of LCS.

How is the governance and regulatory framework (external factors) impacting on LCS?

Recommendations for enhancing the performance of LCS

What are some of the areas of improvement to LCS would you recommend?

Do you think this program is sustainable? Give reasons for your response.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

Key Informant Interviews – Checklist-Zambia National Commercial Bank (ZANACO)

Dear Respondent,

I am a student at the University of Cape Town in South Africa. I am carrying out an academic research on the Impact of credit Finance on Small and Medium Agribusinesses in Zambia-The case of Zambia National Farmers Union's (ZNFU) Lima Credit Scheme. You have been selected to participate on research as a financier of LCS and I am asking for your time to respond to few questions. Note that participation is voluntary and you may choose not to participate at any point. Please answer truthfully and honestly. Be assured that the information you give will be treated with great confidentiality. For this reason, you are not supposed to write your name or give any other information that will display your identity on this questionnaire.

I sincerely thank you in anticipation.

Benefits accrued to ZANACO through its association with LCS.

What role has ZANACO playing on the Lima Credit Scheme programme so far?

What benefits from LCS have accrued to ZANACO so far? Please explain & where possible quantify

Major specific internal factors affecting the performance of LCS.

What major internal factors do you see affecting the LCS?

Governance and regulatory framework variables are impacting on the performance of LCS.

How is the governance and regulatory framework (external factors) impacting on LCS?

Recommendations for enhancing the performance of LCS

What are some of the areas of improvement to LCS would you recommend?

Do you think this program is sustainable? Give reasons for your response.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

Key Informant Interviews – Checklist-Zambia National Farmers Union

Dear Respondent,

I am a student at the University of Cape Town in South Africa. I am carrying out an academic research on the Impact of credit Finance on Small and Medium Agribusinesses in Zambia-The case of Zambia National Farmers Union's (ZNFU) Lima Credit Scheme. You have been selected to participate on research as a driver of LCS and I am asking for your time to respond to few questions. Note that participation is voluntary and you may chose not to participate at any point. Please answer truthfully and honestly. Be assured that the information you give will be treated with great confidentiality. For this reason, you are not supposed to write your name or give any other information that will display your identity on this questionnaire.

I sincerely thank you in anticipation.

Benefits accrued to ZNFU through its association with LCS.

What role has ZNFU playing on the Lima Credit Scheme programme so far?

What benefits from LCS have accrued to ZNFU so far? Please explain & where possible quantify

Major specific internal factors affecting the performance of LCS.

What major internal factors do you see affecting the LCS?

Governance and regulatory framework variables are impacting on the performance of LCS.

How is the governance and regulatory framework (external factors) impacting on LCS?

Recommendations for enhancing the performance of LCS

What are some of the areas of improvement to LCS would you recommend?

Do you think this program is sustainable? Give reasons for your response.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION